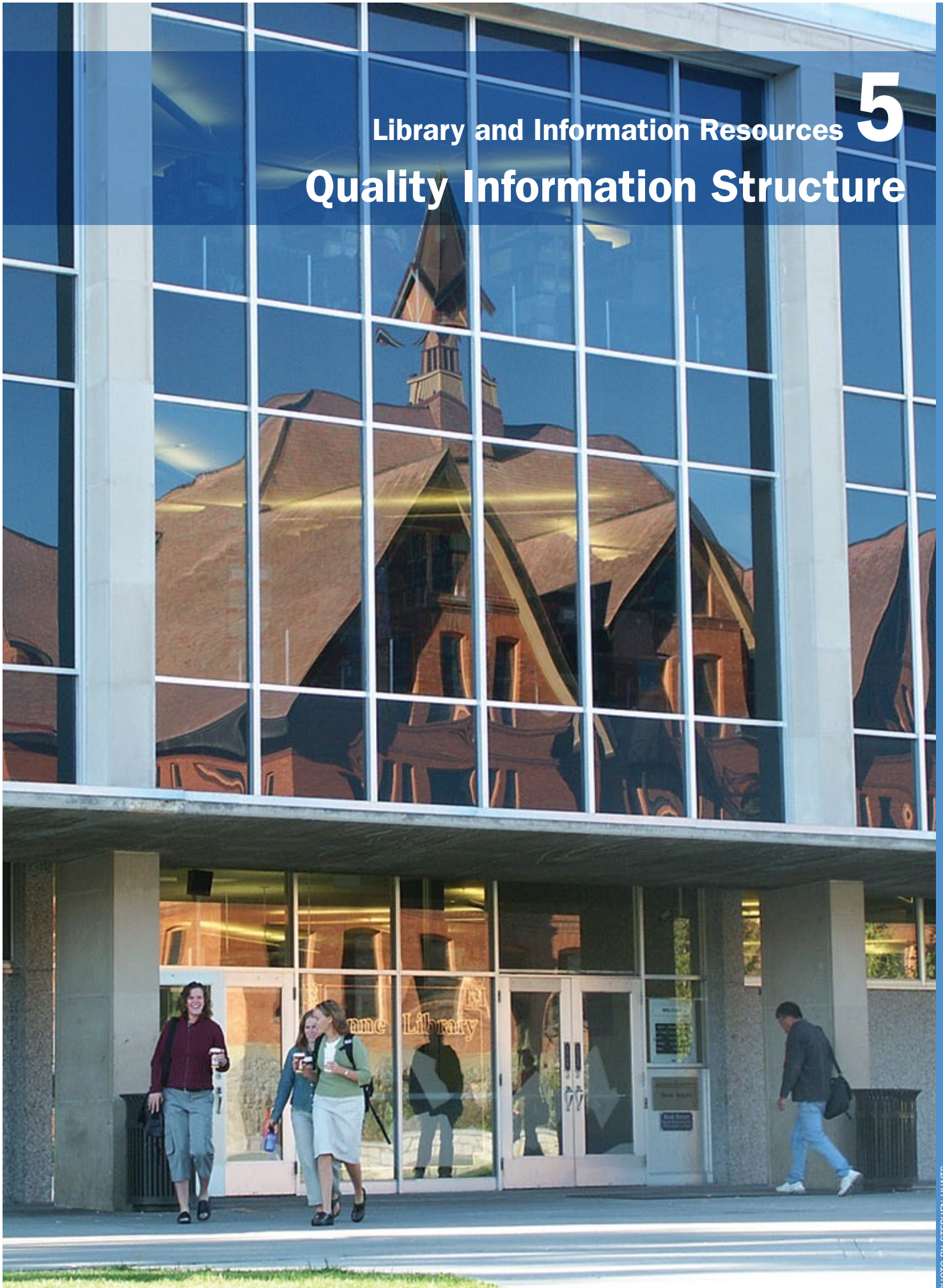


5

Library and Information Resources

Quality Information Structure



5 Library and Information Resources Quality Information Structure



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Over the last decade, at Montana State University (MSU), technological advances have been the enabling force for change in both libraries and information technology infrastructure and services. Research and scholarship have shifted to the digital environment. The move toward open access of publicly-funded research results and a growing need for digital data management have placed new demands on both libraries and academic computing support. MSU is educating a new generation of learners who are digital natives with heightened expectations for instant, free, and comprehensive online access to information. More than 90% of MSU students have computers at home and only 1% report using

slow-speed Internet [connections](#).¹ Students have an increased need for technology-rich learning spaces. Libraries and computer laboratories are seen as places for active learning. They are converged spaces, allowing for multiple uses: from quiet study to social activities, from online data gathering to digital project creation. Consolidation in the publishing industry and growth of electronic-only publications have changed forever the world of scholarly publishing. There is a new role developing for libraries as publishers of newly created digital collections of unique materials, in addition to the collecting and management of “born-digital” materials.

Standard 5.A – Purpose and Scope.

5.A.1 The institution's information resources and services include sufficient holdings, equipment, and personnel in all of its libraries, instructional media and production centers, computer centers, networks, telecommunication facilities, and other repositories of information to accomplish the institution's mission and goals.

Library and information resources are carefully collected to support MSU's mission and goals in teaching, learning, and research. The MSU Libraries Core Collections [Summary](#)² presents an overview of the collections.

A major improvement in the Libraries' collection has been the intentional and aggressive shift from paper to electronic journals. As a result, 64% more subscriptions or databases are delivered directly to the desktops of students and faculty than in 1999. In 1997, 6.5% of the collection budget purchased electronic materials. In 2007, electronic materials of all kinds accounted for 89% of collection expenditures. As electronic titles have been added the print collection has been downsized to conserve space and remove items duplicated online. Yet, as reflected in the LibQual survey results in both 2004 and 2008, the demand for electronic materials has not been [met](#).³ The data confirm anecdotal reports that faculty and students enthusiastically support the move to electronic information and would like more resources available electronically.

To leverage limited resources, the Libraries actively sought innovative consortial agreements to provide a richer collection of electronic journals. For example, EPSCoR Science Information Group (ESIG), a group of libraries in the various EPSCoR states, was brought into being at a meeting of librarians at MSU on June 8, 2001. ESIG libraries work together to license and acquire science, technical, and medical information for their researchers.

The Libraries' print collection has grown 18% over the last decade. As reflected in the

Collection Development [Policy](#),⁴ the Libraries primarily collects books at an undergraduate level with limited doctoral level book collections in support of MSU's teaching, learning, and research needs.

MSU Special Collections is committed to assembling primary and secondary scholarly materials on specific topics supporting MSU's curricular and research needs. Areas of collecting emphasis include: Yellowstone National Park and the Yellowstone ecosystem, Montana agriculture and ranching, Montana history, Montana Native American history and culture, prominent Montanans, and related topics. A major investment in a new initiative created the MSU Libraries' Trout and Salmonid Collection. This preeminent collection supports instruction and research in a wide range of disciplines and departments including Fisheries Management, Land Resources and Environmental Science, History, and Ecology, among others. Housed in the MSU Libraries' Merrill G. Burlingame Special Collections, this collection is open to the public for use on the premises in a controlled archival environment.

Recognizing the need for broader access to data in a digital form, the Libraries created a Digital Access and Web Services Team in 2007. This team creates digital collections, such as the one partnering with the Division of Graduate Education to provide cataloging, storage, and access to Electronic Theses and Dissertations from [MSU](#).⁵

Students have access to over 350 computers across campus for general student use. The Global Student Computer Labs, managed by the Information Technology Center (ITC), are distributed throughout campus, in the Strand Union Building (SUB), the Libraries, Writing Center, and Career Services and Student Employment. Kiosks for visitor use are located in the Libraries and the SUB. Each computer is equipped with a standard suite of software programs to support student learning (MS Office Suite 2003 & 2007, Adobe Creative Suites 3, Microsoft Works, AutoCAD, Dreamweaver, Matlab, Maple, MathCad, SAS, SPSS, Minitab). Specific departmental software packages are installed

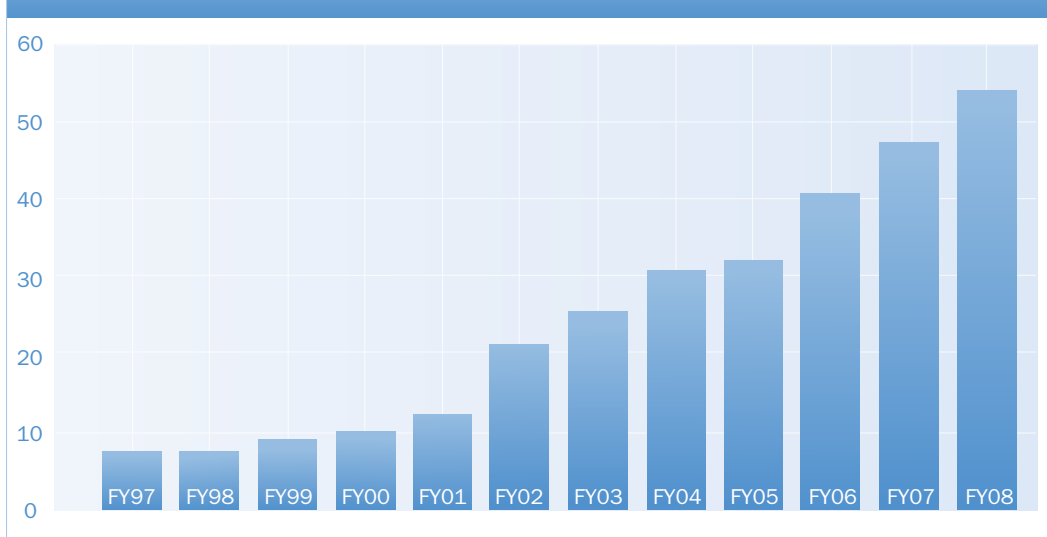
on demand. Students are provided with up to 200 sheets of subsidized printing each semester funded from the Student Computing Fee. Shared file systems for housing course-specific materials are available at no cost. Student labs are staffed with User Support Associates who provide hands-on assistance for students and remote help via e-mail and live chat. Student labs may be reserved for instructional and other training activities.

In addition to the Global Computer Labs provided by ITC, the Libraries provides an additional 130 computers for use by the university community. Each computer is equipped with word processing, spreadsheet, presentation, and other standard software. Each has full access to the entire range of online library databases, journals, and services. There are 28 of these computers housed in a classroom setting, and there is a small teaching area with a smart board, projector, and PC for presentations.

Technology enhanced classrooms, labs and collaborative work areas create new opportunities in teaching and learning by integrating networking, computers, and audiovisual technologies. These technologies provide faculty and students with an opportunity to enrich the educational experience. The campus embarked on a program in 1998

to update, maintain, and develop multimedia smart carts in Registrar-controlled classrooms with support and management provided centrally by ITC. The progress over the past ten years is illustrated in the chart below. Today 40 out of 87 (46%) of the Registrar-controlled classrooms are equipped with smart carts that feature a dedicated PC connected to the campus network, connection for a laptop computer, VCR/DVD player, speakers, remote mouse, and a ceiling-mounted projector. An additional 15 out of 87 (17%) of the Registrar-controlled classrooms are equipped with a laptop only connection and a ceiling-mounted projector. The ceiling-mounted projectors in these classrooms are managed, monitored, and controlled centrally over the campus network and the equipment is refreshed on a regular basis using funding from Student Equipment Fees. In total 128 classrooms, labs, and conference spaces are currently equipped with ceiling mounted projectors and differing levels of audiovisual equipment. The demand for classroom technology is not yet fully met, however. In the self-study survey of faculty, small majorities agreed that Internet connectivity and audiovisual equipment was sufficient, while one-third disagreed that there is sufficient Internet access in classrooms.

Chart 5.01: Number of Smart Podium Installations in Registrar Controlled Classrooms



MSU and Bozeman, Montana are fortunate to be located along one of the major common carrier, east-west, fiber-network paths. This has afforded MSU the opportunity to connect to state, Internet, and Internet2 services via fiber-optic paths.

The Campus Area Network

MSU's campus network is a TCP/IP, switched Ethernet, configured as a physical star. All campus buildings are connected to the core network centered in Renne Library. Single-mode fiber, transmitting data at 1 Gbps, connects each of seven intermediate distribution facilities (IDFs) to the core

network. From the IDFs, either single-mode or multi-mode fiber running at 100 Mbps connects a total of sixty additional buildings to the core network. Currently, MSU is in the process of deploying 802.11b wireless service in selected buildings

on campus. The majority of desktop machines have 100 Mbps connectivity to the network. Additionally, the MSU campus network has multiple pairs of dark single-mode and multi-mode fiber connected to each of the campus buildings. MSU also has 1 Gbps connectivity to the desktop locations of a few selected researchers who have requirements for high bandwidth applications.

State Network Connectivity

MSU has an external fiber-based DS3 ATM connection to the State of Montana network. Connectivity through this network supports voice, video, and data connection to state government and three additional campuses of the MSU system located in Billings, Havre, and Great Falls. The state network also affords connections to the four campuses of the University of Montana system and the Office of the Commissioner of Higher Education.

Internet Connectivity

MSU connects to Internet services via a fiber-based, OC-48 circuit, utilizing 200 Mbps of the OC-48 for commodity Internet service. The remainder of the OC-48 is utilized for Internet2 connectivity. Service is provided by the Pacific Northwest GigaPOP in Seattle, Washington. MSU participates in the Northern Tier Networking Consortium to enhance the bandwidth across Montana. MSU also has an arrangement with a local Internet Service Provider that facilitates a wireless emergency backup connection to the campus network for faculty, staff, or students in the event of a major outage of its Internet access services.

Wireless Access

802.11 wireless network capabilities are being integrated into the campus network. Wireless networking is currently available in thirty-five buildings on campus and additional funding from Student Computer Fees will allow MSU to increase the number of deployed access points over the next three years. The wireless network facilitates guest access to the Internet and fully authenticated access to our domain resources for MSU faculty, staff, and students.

MSU currently has a Nortel CS1000M-MG IP-Enabled PBX located in an air-conditioned switch room, powered from a 48 VDC battery bank with approximately ten hours of battery time, backed up by a natural gas-powered generator. The PBX is configured with licensing for 3,696 analog telephones, 2,672 digital telephones, and 8 IP telephones, and is equipped with 142 local digital trunks, 70 long-distance digital trunks, 24 Operator Services digital trunks, and 117 digital tie trunks connecting other state and MSU sites. Campus telephone service is provided throughout the Bozeman campus to every residence hall room, and to classrooms, labs, and other instructional facilities as needed.



PHOTO BY STEPHEN HUNTS

5.A.2 The institution's core collection and related information resources are sufficient to support the curriculum.

5.A.3 Information resources and services are determined by the nature of the institution's educational programs and the locations where programs are offered.

The MSU Libraries is dedicated to supporting the educational programs at a level appropriate to the courses, degrees, and research existing at MSU. This commitment is reflected in the Libraries' Collection Development [Policy](#)⁶ and in the Vendor Approval Plan, which both indicate the collection goals for each division with consideration of areas without any degree major, divisions with undergraduate degree programs only, divisions with master's degree areas, doctoral program divisions, and special collections areas that aim to be comprehensive. These divisions are reviewed regularly as degree programs, course content, and research interests change.

The collection covers the entire spectrum of disciplines taught at MSU. A listing of holdings by Library of Congress (LOC) [classification](#)⁷ shows that the journal collection is particularly strong in the sciences, agriculture, engineering, business, and some areas of medicine as needed by the degree programs offered by MSU. The book collection is strongest in areas of the humanities, reflecting the differing needs of those disciplines.

The Libraries has been successful in leveraging limited resources to expand access to scholarly journals. It is clear that these resources are not yet viewed as sufficient by some faculty and students as reflected in a typical comment from the 2008 LibQual survey, "We have made great strides in gaining electronic access to some important journals, but we currently really suffer from a lack of access to some important resources in my field of optics."

Standard 5.B – Information Resources and Services

5.B.1 Equipment and materials are selected, acquired, organized, and maintained to support the educational program.

Library materials are acquired through an approval plan profile that matches educational program needs with currently published books. This plan is supplemented by the selections of librarians who serve as liaisons with individual colleges, departments, and programs in consultation with faculty in those units. Further, students and faculty may suggest additional materials for purchase. These purchases are processed promptly and made available for use. There is no backlog of materials waiting cataloging or processing.

The library collections are organized by LOC classification number and shelved on open stacks where they are readily available. A 30-year project to reclassify the older collection of materials using the Dewey Decimal Classification (DDC) scheme was completed during 2009, bringing the print collection into one, easy-to-use call-number arrangement.

5.B.2 Library and information resources and services contribute to developing the ability of students, faculty, and staff to use the resources independently and effectively.

Developing library and information skills

Librarians provide instruction and assistance to ensure that students, faculty, and staff are aware of research resources and can effectively and efficiently use online resources, print collections, and information in all other formats. The goal is to have users become self-sufficient through a mix of technology-based instruction and personal, customized assistance.

- Individual librarians serve as liaisons to specific departments and programs, ensuring that resources and services are marketed, effectively used, and integrated into the university curriculum. Librarians conduct course-integrated classroom instruction sessions, collaborating with instructors.
- The Research Assistance Program (RAP) served 233 people during FY 2008, offering customized assistance with library work needed for term papers, course assignments, and research projects.
- The Libraries offers a growing array of online tools that allow users to be increasingly efficient in their use of information resources. Personal interlibrary loan accounts allow for self-management of information requests and personal information, while speeding delivery of electronic items. Electronic course reserves have expanded student access to reserved course materials beyond campus (via proxy server) and beyond the Libraries' open hours. Individual online catalog accounts empower patrons to manage their own library accounts when renewing materials, placing holds, and reviewing materials they have checked out.
- Librarians create online and paper tutorials as well as subject-specific research guides to help distant patrons use electronic research [tools](#).⁸
- Librarians provide point-of-need information, guidance, and technical assistance to students, faculty, staff, and citizens of Montana regardless of location through a variety of new and traditional reference services including Chat and Instant Messaging Reference, providing assistance in real time, through e-mail reference and traditional Reference Desk services in-person and by telephone.
- Library faculty members regularly teach a small number of for-credit courses that provide exploration of library research tools, processes, and concepts. Although they rep-

resent a small number of student contact hours, these classes serve students across the curriculum. The Libraries offers internships for credit and manages practicum experiences.

- The Libraries houses a satellite Writing Center offering assistance from knowledgeable writing tutors and collaboration with reference librarians.

ITC support of student needs

The Libraries and ITC Help Desk are currently exploring opportunities to collaborate and expand Information Technology (IT) related services to students. Beginning fall semester of 2008, on-campus computer hardware repair services were made available to the student population through the ITC Maintenance Shop. This service was developed to provide convenience and quick turnaround when students experience problems with their personally owned laptops, desktops, and printers. Hardware warranty certifications are maintained for Dell and Hewlett Packard equipment; acquisition of Apple certification is currently in process.

Information Technology Support Specialist training

In an effort to address the ever-increasing technology support needs of campus users, ITC developed and initiated an Information Technology Support Specialist (ITSS) training and certification program. This weeklong training program prepares departmental staff to become more self-sufficient and knowledgeable in five areas of technology: personal computer operating systems and hardware, data networking, telephone coordination, and general technology issues. Individuals who complete the program are better equipped to provide basic computer support for their departments and to act as liaisons between their departments and ITC. To date over 150 individuals have completed the training and passed the certification tests.

5.B.3 Policies, regulations, and procedures for systematic development and management of information resources, in all formats, are documented, updated, and made available to the institution's constituents.

Library users may obtain the Collection-Development Policy at any time from the Libraries and [online](#).² Library faculty members are involved in the selection process in their roles as liaisons to assigned subject areas across the curriculum. These faculty members recommend materials for selection and de-selection in their area(s) of assignment and communicate to campus departments about newly acquired materials. Additionally, faculty representatives from each department make recommendations and give input into collection decisions in their disciplines. In both the liaison and the representative roles, faculty members are encouraged to suggest changes to the collection development policies as appropriate

IT polices, developed with input from the technology advisory committees and campus constituents, are available [online](#).¹⁰

5.B.4 Opportunities are provided for faculty, staff, and students to participate in the planning and development of the library and information resources and services.

The **University Library Committee**, appointed by the Provost, is composed of faculty representatives from each of the Colleges, one graduate student, and one undergraduate student. The committee is charged with advising the Libraries and recommending policies and programs to improve and maintain the services of the Libraries.

Independently, individuals from the Libraries meet with representatives of each teaching department to discuss their information needs, disciplinary changes, and research developments. The Libraries encourages faculty, staff, and students to submit suggestions

for improvements, new services, and emerging information needs through paper and online suggestion [forms](#).¹¹

Technology Advisory Committees: To provide a broad-based governance structure for technology, four committees composed of stakeholders from across the institution were created in 2005. These groups provide guidance and input on the strategic vision and implementation of IT infrastructure on campus.

- The Information Technology Governance Council ([ITGC](#))¹²: The purpose of the ITGC is to achieve better cooperation, communication, and coordination among all MSU constituencies concerning all IT services and functions. ITGC provides Executive-Level vision, guidance, governance, and oversight for the overall operation, maintenance, and strategic enhancement of MSU's information technologies, and it establishes IT policies and strategic directions within the policy guidelines of the university.
- University Technology Advisory Committee ([UTAC](#))¹³: UTAC provides advice and policy guidance to MSU on information technology planning, services, and investments necessary to sustain and improve the university's excellence, competitiveness, and cost-effectiveness. UTAC maintains a mid-to-long range perspective and facilitates well-informed campus communication, participation, and dialogue on IT issues, directions, and strategies vital to the future of MSU.
- Academic Technology Advisory Committee ([ATAC](#))¹⁴: ATAC provides advice to the ITGC on academic, teaching, learning, and research technologies. The committee's scope includes advising on technology directions, strategies, policies, plans, priorities, and needs that are vital to sustaining MSU's excellence and competitiveness in teaching, learning, and research programs at all levels and across the university.

- Enterprise Technology Advisory Committee (ETAC)¹⁵: ETAC provides advice and guidance for ITC, and the ETAC subcommittees, for the general operation, maintenance, and strategic enhancement of MSU's broad scope of Enterprise-Level, support-service information technologies. It provides the ITGC with regular reports on the status of all ETAC operations and recommends to the ITGC major policies, procedures, strategic initiatives, and extensive enhancements for its review and endorsement.

5.B.5 Computing and communications services are used to extend the boundaries in obtaining information and data from other sources, including regional, national, and international networks.

Strategic investments have been made to upgrade the campus connectivity to regional and national research and education networks. In January 2007, the campus interface to wide area networks was increased to 2.5 gigabit bandwidth. In addition, MSU is participating in the Northern Tier Networking Consortium with the goal of further enhancing the bandwidth to 10 Gbps by investing in a seamless network from Seattle across Montana to Minneapolis. Deployment of this new network backbone is anticipated early next year. The network will support future growth and expansion as [needed](#).¹⁶

Through funding made available by Montana legislative appropriation, known as House Bill 4 (HB 4), MSU has recently enhanced connectivity to its Agriculture Department Research Centers (ARC). There are seven ARCs dispersed across the state of Montana that rely on network connectivity to support their research capability and provide administrative services. This ARC network affords connection through MSU-Bozeman to Internet 2, the advanced, higher-education, research Internet. Many of these locations are in very rural areas where connectivity is limited and expensive. These locations have, historically, been provided connectivity

through dial-up modems, DSL connections, and remote wireless service. These disparate methods of networking have been difficult to manage and maintain. The enhanced network connections bring each of the remote locations into the MSU campus with 1.5 megabits per second of connectivity in a consistent and consolidated manner, all through the state and university's recently selected network provider. Additionally, HB 4 funding is being used to connect the Western Transportation Institute's (WTI) new location to the MSU campus network. WTI is a university-affiliated, research organization developing, among other things, improved methods of monitoring and controlling traffic flow in urban settings. WTI is directly connected to the university network utilizing high bandwidth fiber optics.

Standard 5.C – Facilities and Access

In 2001-02 the Renne Library underwent an \$8 million renovation that not only brought it up to current building code standards, but also significantly enhanced the building as a space to facilitate student learning and house/access physical and electronic collections. While the building has the same footprint as it did in 1960, the renovation did permit reclaiming approximately 4,500 square feet of space on the third floor that was previously an undeveloped storage space and now serves as a comfortable study area for students, including five group-study rooms. An additional 4,000 square feet of study and public stack space was similarly reclaimed on the fourth floor. A modest 5,000 linear feet of library shelving was added as a result of the renovation, which brought the total to 88,803 linear feet of shelving to house the collection. The renovation made a dramatic and attractive change in the Libraries' spaces and created a number of inviting areas for quiet study and group work. The renovation was not intended

to address the long-term space needs of the Libraries.

The ITC is located in the basement of the Renne Library building with access provided by two separate entrances on the south side of the building. There is no direct public access between the library public space and the ITC. Staff offices and central servers, network, and telephone equipment are the primary occupants of the center's space. ITC has outgrown this facility and has a dire need for additional office space and server space. All available storage areas have been remodeled to house staff, with two and sometimes three people sharing an office. The Administrative Systems Group's fifteen programmers/analysts are housed in Montana Hall due to this shortage of space, and requests from departments to house servers in our central facility are routinely declined due to space constraints. ITC is now working to create a small server room in the basement of the adjacent AJM Johnson Hall to accommodate additional server equipment for both ITC and other departments on campus.

5.C.1 Library and information resources are readily accessible to all students and faculty. These resources and services are sufficient in quality, level, breadth, quantity, and currency to meet the requirements of the educational program.

- The Renne Library is open a total of 100 hours per week during regular semesters while the Creative Arts Library is open for 83 hours.
- The Libraries provides a broad collection of print and electronic resources. This collection has been developed based on a policy to support the university curriculum. Materials in electronic formats are preferred to enable easy access to multiple patrons simultaneously from within the library and remotely.
- Extensive use is made of link-resolving technology that enhances and facilitates accessibility of electronic collections by linking indexes directly with the content itself.



PHOTO BY STEPHEN HUNTS

- The Libraries' website has been significantly rebuilt several times over the past decade with the objective of improving access to library resources for students and faculty.
- An anticipated addition to the Renne Library building has not materialized and is not currently near the top of the list of long-range building plans for the MSU campus.
- The Renne Library is nearly filled to capacity and has been for 25 years. Continuous and strategic weeding of older materials is an ongoing activity. In 2005, 2.5 tons of older journals were discarded as electronic back files replaced them. Other efforts include the de-selection or reclassification of the remaining items classified according to the DDC into the LOC classification scheme. These efforts will yield less space in the future as the collection is pared down to essentials.
- In December 2008, 17,700 linear feet of compact mobile shelving was installed in the basement to temporarily alleviate the pressing over-crowding of the physical collection.
- The Creative Arts Library located in Cheever Hall is also at capacity with regard to physical collections and was aggressively weeded in 2004. Back runs of many journals have been relocated to the main collection in the Renne Library.

IT initiatives completed since the last accreditation report include:

- Creation of a funded Lifecycle Capital Replacement and Enhancement Plan for central IT servers and network equipment;
- Implementation of the Banner administrative system and a recent conversion to an open Linux environment running on an Itanium-based platform;
- Implementation of a student self-service web payment system;
- Creation of an Enterprise IT Security Team to address increasing needs in this area;
- Implementation of an OC-48 Internet2/Internet connection facilitating enhanced academic and research capability;
- Roll-out of 802.11 wireless networking capabilities integrated into the campus network;
- Development of a partner-based governance model for information technology;
- Creation of an IT Strategic [Plan](#).¹⁷

5.C.2 In cases of cooperative arrangements with other library and information resources formal documented agreements are established. These cooperative relationships and externally provided information sources complement rather than substitute for the institution's own adequate and accessible core collection and services.

- MSU hosts a SIRSI integrated library system, which serves as a shared, catalog for six Montana libraries in addition to four MSU libraries. All items in the catalog are available to MSU students via express reciprocal interlibrary loan between these libraries.
- Several key EBSCO databases such as Info Trac Power Search and Business and Company Resource Center are purchased and licensed statewide collaboratively via the Montana State Library.
- Several of the Libraries' subscriptions to core scientific electronic journal packages from

Elsevier, Kluwer, Springer, etc. are accessed through a cooperative agreement with Los Alamos National Laboratory's E-Science Server. The subscriptions are directly negotiated with the publishers or through the Alliance for Information Science and Technology Innovation (AISTI).

- The Libraries' is a founding member of the EPSCoR ESIG consortium of research libraries in EPSCoR states.
- The Libraries participates in the WWAMI Program, a four-state regional medical education network.
- MSU is a member of Online Computer Library Center (OCLC) and participates in the regional Bibliographic Center for Research (BCR) network.

Standard 5.D – Personnel and Management

Organization and structure

The MSU Libraries, headed by a dean and associate dean, functions as a single collegiate unit without departments. The Libraries maintains the relatively flat organizational structure established in a major reorganization in 1993. Currently, reallocation of existing positions is the sole mechanism for the creation of new positions focused on innovative use of information technology. In order to maximize the efficiency of operations, several small library units have been folded into related functional teams and a new team, Digital and Web Services, was created in [2008](#).¹⁸

The ITC was reorganized in 1996 and the organization remained largely the same until 2007. Two outside reviews conducted in 2005 recommended the creation of a Chief Information Officer (CIO) position with a direct reporting line to the President of the university and the allocation of additional resources for academic and research computing. In 2007, a CIO, who reports directly to the President, an Assistant CIO, and Director of Academic Computing were appointed.

The ITC organization includes the Enterprise Security Group and five divisions, each with a director: Academic Computing; Administrative Systems; Business & Finance; Network, Systems, & Operations; and Sales and Support [Services](#).¹⁹

The 2005 outside review of campus IT reported that MSU staffs IT functions at about two-thirds the level of similar institutions. The challenge posed by this relatively low staffing level has been heightened in recent years by our inability to keep our campus IT positions filled. The quality of life in Bozeman is very attractive for potential employees but that is offset by offering mediocre salaries in a high-cost community. The current downturn in the national economy has made us more attractive as an employer, and for the first time in many years, the ITC has all its positions filled.

MSU's budget committee, the University Planning, Budget, and Analysis Committee (UPBAC), made increased IT staffing on campus its highest campus priority for new funding in the upcoming biennium. Given the recent downturn in Montana's economy, that new funding is not likely to materialize, but the direction recommended by the campus budget committee bodes well for the future of IT initiatives on campus.

5.D.1 The institution employs a sufficient number of library and information resources staff to provide assistance to users of the library and to students at other learning resources sites.

The Libraries' staff consists of 18 (17.75 FTE) librarians/faculty, 34 (31.75 FTE) classified staff, 2 (1.9 FTE) professionals, and 10 FTE student assistants. A development officer for the Libraries is funded in part by the MSU Foundation. The Libraries' staffing levels are slightly below the average for academic libraries in the region. Among this group, MSU is the only institution recognized for "very high research activity" by the Carnegie Foundation. This level of staffing is admittedly thin, but internal reallocations have been effective in refocusing the staff on priority activities like

innovation, student instruction, and access to information resources.

5.D.2 Library and information resources staff include qualified professional and technical support staff, with required specific competencies, whose responsibilities are clearly defined.

The Libraries has a faculty and staff of excellent quality. All faculty members hold a master's degree, generally in Library Science, Information Science, or the equivalent degree from an American Library Association accredited program. Many faculty members also hold second graduate degrees in specific subject areas. Curriculum vitae for faculty members are available [online](#).²⁰ The Libraries employs a system of departmental and disciplinary liaisons, whereby librarians assume responsibility for coordinating with departmental faculty on matters of instruction, collection development, and services to students across the curriculum. A list of liaison assignments may also be found [online](#).²¹ Additional competencies in the areas of electronic resources, digital collections, Web services, instruction, and outreach have been recruited or developed during the last decade. Each member of the staff, including support staff, has a detailed position description that is reviewed annually to ensure that it is current and relevant.

ITC employs a dedicated group of highly qualified staff. Role descriptions for the senior management team can be found [online](#).²² Where certifications are appropriate, ITC encourages staff and provides support for acquiring them.

5.D.3 The institution provides opportunities for professional growth for library and information resources professional staff.

The Libraries' administration provides professional leave time and travel funds for each faculty member and the professional staff to attend conferences for the purpose of professional development and/or presentation of

their research. Support staff may also request travel funding to support their career development. The Libraries' Leadership, Education, Ability, Potential (LEAP) program was inaugurated in 2007 to provide a coordinated and focused approach to staff training and career development. All members of the Libraries' staff are encouraged to continue building their skills to meet the challenges of a changed information landscape.

5.D.4 Library and information resources and services are organized to support the accomplishment of institutional mission and goals. Organizational arrangements recognize the need for service linkage among complementary resource bases (e.g., libraries, computing facilities, instructional media and telecommunication centers).

Librarians and technologists are part of the shared governance structure at MSU and participate in developing the institutional mission and goals as well as in working to accomplish them. Each of the major providers of information and technology services also participates in a variety of governance groups to help shape the planning, budgeting, and oversight of these key services. The four technology advisory committees—ITGC, UTAC, ATAC, and ETAC—are key forums for discussions of the IT infrastructure on the MSU campus.

In recognition of the changing nature of scholarly information, representatives of the Libraries, ITC, Academic Computing, and the Burns Technology Center meet regularly as the Electronic Management Group to coordinate efforts and work toward shared goals. As courses and scholarly information have become increasingly web-delivered and online research collaborations proliferate, it is important to build this collaborative approach to meet the information and technology needs of the academic community.

5.D.5 The institution consults library and information resources staff in curriculum development.

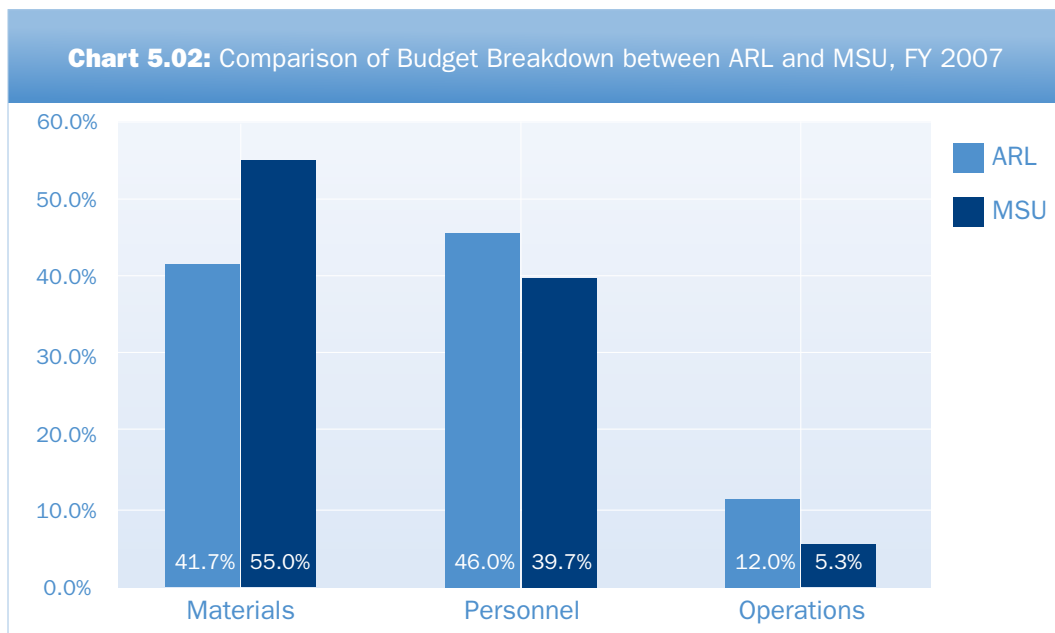
- The Libraries has an ex-officio representative on the Undergraduate Curriculum Committee, the body that approves all new undergraduate courses added to the curriculum. This allows the Libraries a strong consultative role in the approval process regarding all new program, major, and course proposals.
- While a library administrator is invited to attend and observe the Graduate Council's meetings, where graduate education curriculum decisions are made, the Libraries does not have a representative on this body.
- A librarian serves on the MSU Teaching and Learning Committee, which promotes good teaching practices on campus.
- Library faculty members serve on various academic and MSU governance committees across campus such as Faculty Senate, Faculty Affairs Committee, Women's and Gender Studies Minor Committee, and University Web Advisory Committee.
- The Extended University through the Burns Technology Center facilitates the delivery of distance education, working directly with faculty developing online curricula.

5.D.6 The institution provides sufficient financial support for library and information resources and services, and for their maintenance and security.

The Libraries' materials budget has improved substantially over the past decade. The single most effective improvement has been the treatment of inflation for library materials, particularly journal subscriptions, as an overhead cost. Since 2002, base budget additions have been made for inflation. The Libraries is no longer forced to cancel sub-

scriptions each year in order to cover the inflationary costs that eroded their buying power. Annual support from the Office of Research, which is also inflation indexed, has allowed for the purchase of online journals and databases in support of research activities, making MSU researchers more competitive in securing research funding. The Libraries' budget has become more stable and predictable, but it does not allow for expanding the

journal collection. This is clearly reflected in the 2004 and 2008 LibQual responses from faculty who found the Libraries inadequate in providing all the "print or electronic journal collections I require for my work." The monographic collection grew last year by 5,700 titles, and many of these purchases were made with external funds from endowments. Most requests to purchase books can be and are readily accommodated.



In comparison with the member libraries of the Association for Research Libraries (ARL), MSU's Libraries spends a larger than average portion, but a much smaller dollar amount, of its budget for library materials and electronic resources and less than average on both personnel and operations. Given the growing demand for information resources, the Libraries protects the budget for materials in tight financial times by operating as efficiently as possible. The Libraries leverages its limited resources to deliver as much value as possible, returning high value for each dollar invested in the Libraries. Even so, it is clear that the Libraries' operations are chronically under-funded.

The ITC and MSU administration developed a Lifecycle Capital Replacement and Enhancement Plan in 2003 that provides ongoing funding for scheduled replacement of central servers, storage devices, and networking equipment. MSU's central servers and storage area networks are replaced every four years under this plan, and network switches and routers are on a seven-year replacement cycle. Four-year warranties and on-site maintenance contracts are also included and funded with all new server and storage purchases. The recent conversion and upgrade of the Banner central administrative system from an Alpha chip Tru-64 Unix platform to an open Linux platform running on Itanium chips was made possible by this plan.

Funding for IT on campus has been relatively stable and secure. The State of Montana's budget office has allowed inflationary calculations on fixed-cost items (e.g., software maintenance contracts) to exceed the regular CPI rates. These increases have typically been funded with a mixture of state appropriation and tuition increases. In addition to the Lifecycle Capital Replacement Plan, student fees provide two additional opportunities for campus IT funding. Both the Computer Fee Allocation Committee (CFAC) and the Equipment Fee Allocation Committee (EFAC) distribute a significant amount of money to campus IT initiatives annually. Students have been supportive of inflationary increases on each of these fees and, given that enrollments have remained relatively stable, the fees have generated adequate revenue. The reorganization of MSU's IT governance structure in 2007 resulted in the creation of the ITGC. That group consists of four MSU Vice Presidents, two of whom are the chair and vice chair of the UPBAC. The ITGC has given IT funding issues good visibility during campus budget committee meetings. In the most recent MSU request for new funding made to the Montana University System Board of Regents (BOR), new IT positions were the highest priority item.

Standard 5.E – Planning and Evaluation

5.E.1 The institution has a planning process that involves users, library and information resource staff, faculty, and administrators.

The Libraries' formal Administrative Strategic Plan²³ includes statements of mission, vision, and values. A Five-year Vision Statement²⁴ developed by the Library Team Leaders in 2007 augments this plan. The Libraries' plan is guided by MSU's planning process and is informed by significant input from both students and faculty members. A formal survey asking the university community to assess the quality of the Libraries has

been conducted twice during the last decade, in 2004 and 2008. The LibQual instrument is administered by the ARL and is used in hundreds of academic libraries in North America.²⁵ In 2007 the Student Marketing Club was engaged to conduct a survey on the information gathering habits of high-school seniors, MSU undergraduates, and faculty members.²⁶ Informal input is solicited from major stakeholders throughout each academic year in the form of departmental meetings, meetings with student leaders, advice from the University Library Committee, and both online and paper suggestion forms. In 2007 the Libraries began experimenting with planning processes that more fully engaged the entire staff of the Libraries in planning. Beginning with the pressing issue of utilization of limited space, a consultant has assisted in conducting structured interviews and focus groups on space planning. It is expected that a more broad-based internal Libraries planning process will be based on this work.

An IT Strategic Plan was developed by UTAC for all areas of information technology on campus.²⁷ This plan focuses on increasing accountability, increasing services for faculty and students, and addressing needs of the research community for IT services.

5.E.2 The institution, in its planning, recognizes the need for management and technical linkages among information resource bases (e.g., libraries, instructional computing, media production and distribution centers, and telecommunications networks).

There is a growing dependence on campus cyber-infrastructure in all critical teaching, learning, and research endeavors of the institution. In recognition of the needs of students and teachers alike, wireless networking capabilities are being integrated into the campus network. Currently, there is network access in 35 MSU buildings with plans to expand coverage throughout campus. The demand for bandwidth and Internet connectivity continues to grow.

In response to the complex planning needs of information technology, MSU created the system of advisory committees outlined in **Standard 5.4.B**. In addition, there is a growing collaboration between technologists and librarians. The Electronic Management Group meets several times each semester to work toward common goals in improving the technical environment. Better integration of course management software, improved identity management, and coordinated planning are a few of the topics

Student use of the Global Student Computing Labs continues to grow as new services and software packages are made available. In 2006, 11,000 students made use of one or more of the ten student labs.

5.E.3 The institution regularly and systematically evaluates the quality, adequacy, and utilization of its library and information resources and services, including those provided through cooperative arrangements, and at all locations where courses, programs, or degrees are offered. The institution uses the results of the evaluations to improve the effectiveness of these resources.

A comprehensive ITC customer-satisfaction survey completed in 2005 during the Edutech review process showed a high level of user satisfaction with the services provided. Results from 624 respondents showed that over 76 percent of those who had an opinion were either satisfied or very satisfied with the computing environment at MSU, including student computing labs, electronic e-mail, the campus network, telephone services, Help Desk consulting, the MSU website, and the Banner administrative information systems. Full survey results can be found in **Exhibit 5-d**.

The MSU Libraries combines formal assessment of the quality of library collections and services through LibQual with less formal data gathering in focus groups, online and paper suggestion opportunities, and routine liaison contacts with departments across campus. In response to the 2008 LibQual survey, students expressed high levels of sat-

isfaction with library services and facilities. Undergraduate students found that all aspects of the Libraries, including collections, met their needs. Faculty and graduate students likewise indicated high levels of satisfaction with library services while expressing a desire for more print and electronic collections. The 2004 LibQual data noted two areas in which the library did not meet the perceived minimum needs of the respondents: “Printed materials I need for my work” (item IC3) and “Print and/or electronic journal collections I need for my work” (item IC8). The 2008 LibQual survey found that only the journal collections were perceived as below minimum and that the gap was smaller than in 2004. The MSU Libraries’ services and public spaces were rated highly, well above the desired minimums, in both surveys.

Standard 5 – Summary and Analysis

Strengths

- The MSU Libraries provides good value to students and researchers through its collections and services, contributing to student success and research productivity.
- MSU’s budget committee (UPBAC) has recognized improved funding of IT across campus as a priority investment that would generate a valuable return in terms of learning and research.
- Funding of Libraries’ annual collection inflation since 2001 has provided a more predictable budget that allows for annual continuation of subscriptions, licenses, and access to essential information resources.
- The Lifecycle Capital Replacement and Enhancement Plan allows for scheduled replacement of central IT servers and network equipment.

Challenges

- MSU has strengthened its research programs and been recognized by the Carnegie

Foundation as a “very high research” institution. To adequately support this enhanced research activity, further investments in both the information technology infrastructure and the Libraries are needed.

- The Information Technology Center and the Libraries do not have adequate space to house current or future staff, collections, infrastructure and services. Planning for space improvements is a critical element to meeting the information and technology needs of MSU.

Standard 5 – Supporting Documentation

Required Exhibits

1. Printed materials that describe for students the hours and services of learning resources facilities such as libraries, computer labs, and audio-visual facilities.
 - a. Hours and services on Libraries Home page: <http://www.lib.montana.edu/>
 - b. Location and hours of student computer labs: <http://www.montana.edu/accreditation/accredLinks/st5/grey-wulff.msu.montana.edu/wordpress/index.php>
 - c. Information Technology Center services: <http://www.montana.edu/wwwitc>
2. Policies, regulations, and procedures for the development and management of library and information resources, including collection development and weeding.
 - a. Purchase request form and link to the collection development policy: <http://www.lib.montana.edu/forms/purchaserequest.php>
3. Statistics on use of library and other learning resources.
 - a. Webpage statistical profile: <http://www.lib.montana.edu/about/statprofile.php>
 - b. Library usage: <http://www.lib.montana.edu/about/statprofile.php>
4. Statistics on library collection and inventory of other learning resources.
 - a. Webpage statistical profile: <http://www.lib.montana.edu/about/statprofile.php>
5. Assessment measurements utilized to determine the adequacy of facilities for the goals of the library and information resources and services.
 - a. LibQual 2004: <http://www.montana.edu/accreditation/accredLinks/st5/shares.lib.montana.edu/staff/administration/login.html>
 - b. Marketing Club Survey: <http://www.lib.montana.edu/accreditation/>
 - c. IT Satisfaction Survey
 - d. Report of the Internet2 Campus Expectations Task Force (CETF): <http://www.lib.montana.edu/accreditation/>
6. Assessment measures to determine the adequacy of holdings, information resources, and services to support the educational programs both on and off campus.
 - a. LibQual 2004: <http://www.montana.edu/accreditation/accredLinks/st5/shares.lib.montana.edu/staff/administration/login.html>
7. Data regarding number and assignments of library staff.
 - a. Library staff directory: <http://www.lib.montana.edu/people/>

- b. Information Technology Center staff: <http://www.montana.edu/wwwitic/staff.html>
- 8. Chart showing the organizational arrangements for managing libraries and other information resources (e.g., computing facilities, instructional media, and telecommunication centers).
 - a. Library organization chart: <http://www.lib.montana.edu/about/libraryorgchart.pdf>
 - b. Information Technology organization chart: <http://www.montana.edu/wwwitic/OrgAugust08.pdf>
- 9. Comprehensive budget(s) for library and information resources.
 - a. Library budget
 - b. ITC budget
- 10. Vitae of professional library staff.
 - a. Librarians' vitae: <http://www.lib.montana.edu/people/vitae.php>
- 11. Formal, written agreements with other libraries.
 - a. OMNI contracts
- 12. Computer usage statistics related to the retrieval of library resources.
 - a. Use of electronic resources: <http://www.lib.montana.edu/accreditation/>
- 13. Printed information describing user services provided by the computing facility.
 - a. ITC home page: <http://www.montana.edu/wwwitic/index.html>
- 14. Studies or documents describing the evaluation of library and information resources.
 - a. <http://www.lib.montana.edu/accreditation/>
 - b. Marketing Club Survey: <http://www.lib.montana.edu/accreditation/>

Additional

- 15. MSU Computing Security Policies: <http://www.montana.edu/itsecurity/>
- 16. ITC Acceptable Use Policy: <http://www.montana.edu/resnet/aup.php>
- 17. MSU Libraries Mission and Plan: <http://www.lib.montana.edu/about/strategicplan.php>
- 17a. MSU Libraries Five-year Vision and Plan: <http://www.lib.montana.edu/accreditation/>
- 18. LIBR 121 course webpage: <http://www.lib.montana.edu/~tdonahue/libr121/>
- 19. Online library tutorials: <http://www.lib.montana.edu/tutorials/>
- 20. MSU Campus Network Strategic Plan: http://www.montana.edu/wwwitic/pdfs/MSU_Information_Technology_Strategic_Plan.pdf

Endnotes for Standard 5

- ¹ <http://www.lib.montana.edu/accreditation/>
- ² <http://www.lib.montana.edu/accreditation/>
- ³ <http://www.lib.montana.edu/accreditation/>
- ⁴ <http://www.lib.montana.edu/forms/purchaserequest.php>
- ⁵ <http://etd.lib.montana.edu/etd/view/>
- ⁶ <http://www.lib.montana.edu/about/policy.pdf>
- ⁷ <http://www.lib.montana.edu/accreditation/>
- ⁸ <http://www.lib.montana.edu/tutorials/>
- ⁹ <http://www.lib.montana.edu/about/policy.pdf>
- ¹⁰ <http://www2.montana.edu/policy/>
- ¹¹ <http://www.lib.montana.edu/forms/purchaserequest.php>
- ¹² <http://www.montana.edu/opa/coms/itgov.html>
- ¹³ <http://www.montana.edu/opa/coms/utac.html>
- ¹⁴ <http://www.montana.edu/opa/coms/atac.html>
- ¹⁵ <http://www.montana.edu/opa/coms/etac.html>
- ¹⁶ http://www.montana.edu/wwwitc/pdfs/MSU_Information_Technology_Strategic_Plan.pdf
- ¹⁷ http://www.montana.edu/wwwitc/pdfs/MSU_Information_Technology_Strategic_Plan.pdf
- ¹⁸ <http://www.lib.montana.edu/about/libraryorgchart.pdf>
- ¹⁹ <http://www.montana.edu/wwwitc/OrgAugust08.pdf>
- ²⁰ <http://www.lib.montana.edu/people/vitae.php>
- ²¹ <http://www.lib.montana.edu/instruction/liaisons.php>
- ²² <http://www.montana.edu/wwwitc/directors.html>
- ²³ <http://www.lib.montana.edu/about/strategicplan.php>
- ²⁴ <http://www.lib.montana.edu/accreditation/>
- ²⁵ <http://www.lib.montana.edu/accreditation/>
- ²⁶ <http://www.lib.montana.edu/accreditation/>
- ²⁷ http://www.montana.edu/wwwitc/pdfs/MSU_Information_Technology_Strategic_Plan.pdf