The purpose of this document is to provide guidelines for evaluating information resources that colleges and universities can use when doing institutional self-assessments, and that regional accrediting associations can consider as part of the accrediting process. After a brief introduction, a set of general requirements and related questions, based in part upon accreditation team experiences, outline areas that need to be addressed to ensure that information resources support the mission and administration of the institution.

The term “information resources” as used in this set of guidelines encompasses information technologies (computing and voice, video, and data communications), information services, and information itself. While most accrediting agencies offer standards for libraries which primarily address information in print form, these guidelines are intended to address a growing area of common concern for both libraries and information technology organizations—access to and delivery of information through computing and communications technology (electronic information resources).

These guidelines have been developed, reviewed, and endorsed by the Association of Research Libraries (ARL), CAUSE, and Educom, three key organizations encouraging and providing support for effective planning, management, and use of information resources in higher education. The three organizations conduct cooperative initiatives through the Higher Education Information Resources Alliance (HEIRAlliance).

Introduction

Institutions of higher education continue to invest heavily in information resources—information, technology, and services. The technology continues to change at a rapid rate, as evidenced by the increasing power of the desktop workstation, the emphasis on distributed computing, the use of classroom technology and video conferencing, the ubiquity of electronic servers for text, numeric, and graphic information, the need of the business community for colleges and universities to produce information-literate graduates, and the evolution of the Internet toward a national and global information infrastructure.

In this environment many opportunities arise—and in fact strong forces are already at work—to change instructional methods, research approaches, and administrative processes. Institutions of higher education need to be aware of the importance of their investment in information resources and to have means to assess their progress in providing them.

Traditional requirements for review, combined with increasing public demands for accountability in higher education, necessitate continued development of good tools for assessment. One of the primary approaches to evaluation in higher education is institutional self-study to review progress in a particular area; another is the regional accreditation process. This set of guidelines aims to facilitate and support each of these important mechanisms.

Accreditation is a voluntary, non-governmental effort by institutions. Its basic goals are to:

• assure the educational community, the governing board, and the public that an institution has clearly defined educational objectives and has developed an environment that supports achieving those objectives according to agreed standards, and
• encourage educational improvement by self-study and periodic evaluation by qualified professionals.

The accreditation process is overseen through re-

Regional and specialized agencies (such as for engineering and business administration) which develop accreditation guidelines and standards and administer periodic team visits. An accreditation review is often preceded by the institution’s own extensive self-study that uses accreditation guidelines and standards published by its accrediting agency. As the model for accessing and delivering information increasingly becomes one of a networked information environment, electronic information resources especially need to be addressed as an integral part of the self-study or accreditation process.

Thus, we offer these guidelines in the hope of assisting the evaluation process, whether as part of the formal accreditation process or an internal institutional review. Not every question will apply to every institution; what is important in the evaluation is seeking the match between the institution’s stated mission and the observed environment.

### General Requirements

Information resources—including such electronic resources as computer hardware and software, communications networks, databases, scholarly information in electronic form, access and delivery systems, transaction processing systems, computer applications, computer and information professionals, and other related resources—are of the quality, depth, and currentness necessary to support the institution’s articulated mission, strategies, directions, and goals for academic programs and institutional management.

Information in electronic form is made available to the campus community and, where appropriate, to the local, national, and/or international networked community. Such information is selected, delivered, and managed to support the institution’s academic and community service mission and administrative requirements; it includes institutional administrative and academic databases and their content, electronic scholarly information and other electronic text and images, communications between colleagues locally and elsewhere, indexing and abstracting services, bulletin boards, and access to commercial and non-commercial online resources.

What follow are some key guidelines for effective planning, management, and use of institutional information resources. Rather than being prescriptive, the questions highlight areas that should be explored to better understand the requirements for integrating information resources into the fabric of the institution.

**Academic Program Support.** Academic programs are supported by appropriate electronic information resources. These comprise, for example, high-speed communications networks, computing hardware and software, access to external networked resources, electronic scholarly information, library search engines and digital repositories, indexing and text and data services, high-technology classrooms, electronic conferencing facilities, multimedia instructional development labs, administrative databases, and the like. The institutional environment encourages faculty to make appropriate and innovative uses of electronic information resources to improve academic programs and to publish scholarly information, and encourages students to make appropriate and innovative uses of such resources to further their learning. A locus of responsibility for the institution’s digital academic information has been identified.

- Are software, hardware, and network resources appropriate in quantity and quality to meet academic program needs?
- Are such resources regularly updated to meet current and emerging academic program needs?
- Are available scholarly information resources provided in electronic form where appropriate, and are they selected through an organized planning process, guided by written policies and procedures that include collaboration among users and library and computing professionals?
- Are support and training provided to help faculty and students learn to use and effectively apply such resources?
- Are the campuswide computing and telecommunications centers, library technological infrastructure, and computing laboratories appropri-
A variety of electronic information resources, both on and off campus, is readily accessible by faculty, staff, and students so that they may accomplish their work independent of their location. Electronic information resources and provision for electronic access to information are allocated among central and distributed suppliers and users within the institution according to understood plans and procedures.

Does the institution, consistent with its size and mission, utilize the national and international information infrastructure to extend educational and academic opportunities to non-local and non-traditional students? to promote faculty and student recruitment? to make appropriate information available on the network as well as accessing it elsewhere?

Are procedures and incentives in place to encourage faculty to make appropriate and innovative use of electronic information resources to improve the academic program and publish scholarly information, and to encourage student use?

Are support and training provided to help administrators and staff learn to use and effectively apply such resources?

Administrative Support. The institution’s operations and management are supported by appropriate information resources. Initiatives that make use of information resources to provide better administrative services and savings are encouraged and supported by senior administrators and information resources organizations. Information resources are viewed as having the potential to improve business processes for greater efficiency and effectiveness.

Do administrative information resources provided electronically so as to increase the effectiveness and efficiency of the institution?

Are access privileges to administrative information resources assigned to individuals commensurate with their scope of responsibility and need for such information to do their jobs effectively?

Are software, hardware, and network resources appropriate in quantity and quality to meet the needs of institutional management and operations?

Are such resources regularly updated to meet current and emerging administrative and operations needs?

Are incentives and procedures in place to encourage administrators and staff to make appropriate and innovative uses of electronic information resources to improve the operation, management, and decision-making of the institution?
Extended Boundaries. The institution is moving to exploit technology to extend the traditional boundaries of the campus by providing educational and research opportunities and services in the home, at the worksite, or wherever faculty and potential students may be.

Do students and faculty have adequate and convenient access to electronic information resources from off-campus locations?

Where off-campus electronic information resources are used as part of the institution’s programs, are students and faculty provided convenient and appropriate access to these resources?

Institutionwide Planning. The institution considers among its important information resources such organizations as libraries, academic and administrative computing support groups, telecommunications and networking services, audiovisual and multimedia facilities, printing facilities, and university presses. The institution recognizes the need for ongoing partnerships and joint planning among these groups, as well as management and technical linkages among them, so as to benefit from their synergy and to avoid duplicative effort. A well-developed planning process which is tied to the institutional budgeting process is in place for information resources, involving faculty, senior administrators, librarians, information technology professionals, students, and others as needed.

Does the institution’s mission and vision statement articulate the role and degree of importance information resources play in its academic and administrative programs?

Is the planning for information resources incorporated into the institutionwide strategic planning process?

Is there a campuswide plan for information resources that not only addresses the communication paths such as voice, video, and data communications, but addresses as well the information content that travels over these paths?

Does the planning process include participation of user communities, and are users or potential users of applications meaningfully involved when such applications are developed or reengineered?

Are administrators responsible for information resources management included in executive-level strategic planning and direction-setting for these resources?

Does campus space/facilities planning incorporate the needs and standards for electronic information resources?

Is there adequate and stable funding to support the institution’s continuing commitments to electronic information resources, including capital replacement funding and annual budget allocations for upgrading and maintenance?

Where information is valuable to the institution over time, are there procedures and planning for backup, migration and refreshing, technology upgrades, and long-term information integrity and archiving?

Are mission-critical information systems regularly evaluated to ensure that they continue to meet the changing needs of the institution, in light of opportunities presented by emerging technologies?

Is there a plan in place to recover electronic information resources in the event of a disaster?

Are the acquisitions and gifts of software, hardware, and other electronic information resources consistent with articulated academic and administrative program directions and needs?

Is there institutionwide coordination of the process of evaluating and acquiring emerging technologies?

If the institution relies on the computing resources of other institutions or organizations, does it have a well-conceptualized rationale specifying the roles of both on- and off-campus computing resources?
Advisory and Policy Structure. Appropriate user, provider, and institutional structures (e.g., advisory and policy committees) exist to provide guidance and direction in the development and use of institutional information resources. These structures are supported by the institution and are made up of members who are knowledgeable about the enabling capabilities of electronic information resources. Policies and procedures are in place to promote responsible use of such resources by individuals, by campus organizations, and by the institution.

Do written policies and procedures exist regarding appropriate and authorized use of computing resources and network access, such as a rights and responsibilities statement?

Do policies and procedures exist to ensure the integrity and security of information used by faculty, staff, and students?

Do the institution’s access and delivery systems have appropriate measures in place to assure data integrity, security, and access control, including the fulfillment of legal requirements (including copyright), regulations, and commercial agreements?

Do policies and procedures exist that encourage the legal and ethical uses of electronic information resources by all members of the institutional community, and, where sanctions are applied, are principles of due process followed?

Do rules and procedures regarding access and use of data strike an appropriate balance among an individual’s right to privacy, the institution’s imperative to operate efficiently, and, in the case of public institutions, the rights of citizens to information about their government?

Are the written policies and procedures for the acquisition of hardware, software, and other electronic information resources kept current and are they widely circulated among academic and administrative departments?

Are procedures for gaining or granting access to information clearly stated and consistently and equitably applied?

Are information technology standards in place and are members of the campus community aware of these so that they can make an informed choice when making technology purchases?

Staffing. Professional staff with appropriate expertise are available—both centrally and in divisional, school, or department units close to users—to support faculty, students, administrators, and staff and to maintain services. Such staff have adopted a customer-service orientation in the delivery of information services to the campus. Acquisition of new technologies is timely, and related support services (documentation, development, consultation, training, maintenance) meet the needs of institutional users.

Are sufficient resources (staff, equipment, and facilities) available for network planning, operation, and ongoing support?

Are there sufficient staff and funding for the identification of scholarly information resources, for their being made available, and for the assistance of students and faculty in locating and using them?

Do students, faculty, and staff have adequate support services (training, consultation, documentation, development, maintenance, help systems, and so forth) to meet their academic and administrative program needs?

Is there an ongoing, comprehensive training program in the use of electronic information resources for faculty, staff, and students, including those in continuing education and off-campus programs?

Do training programs address differing skill levels of users, and are there strategies for providing online help and support facilities?
The Higher Education Information Resources Alliance (HEIRAlliance) is a vehicle for cooperative projects between the Association of Research Libraries, CAUSE, and Educom. In 1994, the HEIRAlliance appointed a committee to update the CAUSE/EDUCOM Evaluation Guidelines for Institutional Information Technology Resources (published in 1988). This committee comprised Peter Graham, Associate University Librarian, Rutgers, The State University of New Jersey; Christine Haile, Associate Vice Chancellor, Technology Services, State University of New York Central Administration; and Norma Holland, Associate Director, University Computing Services, Indiana University. Representing respectively ARL, Educom, and CAUSE, this committee made recommendations to the parent organizations which approved these new guidelines in the spring of 1995. The original document was based on the work of a committee made up of David L. Smallen, Hamilton College; Thomas W. West, The California State University System; James Moss, Naval Academy; and Robert G. Gillespie, now with Robert Gillespie Associates.

Special thanks are due to several readers, whose comments and perspectives were valuable in ensuring that the document was broadly framed to serve all types and sizes of colleges and universities: David Smallen, Hamilton College; Albert L. LeDuc, Miami-Dade Community College; and Gerald Bernbom, Indiana University.

This document was edited and prepared on behalf of the HEIRAlliance by CAUSE, 4840 Pearl East Circle, Suite 302E, Boulder, CO 80301-6114; phone 303-449-4430, e-mail info@cause.colorado.edu.