

Mildred F. Sawyer Library
Student Learning Outcomes: Assessment Plan for Information Fluency

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INTRODUCTION

Suffolk University's Mission Statement places students at the center of its efforts and value structure, and emphasizes academic excellence through teaching, based on the application of theory and research to practice and public service. The Mildred F. Sawyer Library's Mission Statement identifies three education goals: students should be able to find and evaluate information, learn rather than amass information, and turn information into knowledge. Additionally, students are expected to become independent, self-sufficient, self-directed lifelong information users.

As stated in the Association of College and Research Libraries' *Information Literacy Competency Standards for Higher Education* (available: <http://www.ala.org/ala/mgrps/divs/acrl/standards/informationliteracycompetency.cfm>), information literacy is a set of abilities requiring individuals to recognize when information is needed and to have the ability to locate, evaluate, and use effectively the needed information. Information literacy forms the basis for lifelong learning. It is common to all disciplines, to all learning environments, and to all levels of education. It is global, applicable to all cultures. It enables learners to master content and extend their investigations, become more self-directed, and assume greater control over their own learning.

An information fluent individual is able to:

- determine the extent of information needed;
- access the needed information effectively and efficiently;
- evaluate information and its sources critically;
- incorporate selected information into one's knowledge base;
- use information effectively to accomplish a specific purpose ; and,
- understand the economic, legal, and social issues surrounding the use of information, and access and use information ethically and legally.

CONTEXT

In the 21st century the most basic information need will demand the intellectual and practical skills to simultaneously access, evaluate and manage information. Information fluency:

- equips individuals for lifelong learning;
- involves more than knowing how to use computers;
- includes critical analysis of information;
- highlights the global nature of information; and,
- allows use of relevant information for informed decision making.

Students who graduate with research competencies are equipped to think critically and to solve problems in professional, personal and social spheres of their lives. Critical thinking is used extensively in information literacy: in the process of narrowing down a topic or clearly defining its scope; for deciding what to look for, where and how to search; in evaluating what is authoritative and which source to incorporate in the paper as well as in who to believe; and, what to integrate into personal values and worldview.

Information skills are not intuitive; students need to be taught how to find and process information. Because students do not intuitively understand how to find good information, sources are often selected because of ease of access as opposed to applying evaluative criteria. Additionally, students must practice these learned skills in order to retain and improve them. Information fluency is also incremental. As one matriculates into the major, the skills necessary to manage the information of the discipline builds from the basics of information fluency.

Librarians are not the sole providers of information skill lessons. It is a collaborative effort with faculty to support the student learning outcomes they have identified, and integrated into courses at all levels to reinforce skills learned. Faculty and students are at the center of the learning universe, and librarians are important supporters and facilitators.

An information fluency plan informs the University community of the library's efforts to contribute to the curriculum as well as identifies critical student learning outcomes. The plan ultimately guides the library's group and one-on-one synchronous and asynchronous instruction efforts. Therefore, it supports institutional and program accreditations.

At a minimum, students should come to understand the purposes of an academic library include the availability of:

- library staff, along with help guides and other resources, to assist the student to meet their course-related information needs;
- print, non-print and virtual collections of information sources;
- technology-based hardware, applications, and information services organized to support their course-related information needs including workstations and printers, network services, and the library's Web site; and,
- facilities for housing the infrastructure along with study spaces and other support services.

In addition to understanding the purposes of an academic library, the library seeks to instill the following attitudes and values:

- students become confident and skillful information users;
- students effectively take advantage of access to information and the use of technology available in the Sawyer Library, and elsewhere on- and off-campus;
- students become ethical users of the intellectual property of others, understanding the social/ethical/political/economic implications of information resources and intellectual property;
- students develop critical thinking skills; and,
- students appreciate life-long learning.

LEARNING GOAL AND OUTCOMES

Goal: Students demonstrate the ability to recognize when information is needed and have the ability to locate, evaluate, and use information ethically, legally and effectively.

Outcomes: Students will

- understand general library skills;
- search academic databases effectively;
- evaluate information sources;
- demonstrate ethical use of information; and,
- further develop research skills within their discipline.

Learning Outcomes, Objectives and Skills

Outcome: Students will understand general library skills.

Information Fluency Objective 1: Define the research question

Skill 1.1: determine scope (e.g., nature and extent) of information need

Skill 1.2: identify key concepts and terms needed to construct effective searches

Skill 1.3: become familiar with the resources and services provided by the library to meet information-related course assignments needs

Skill 1.4: identify types (e.g., journals, government publications, books, web presentations) and treatments of materials (e.g., book=in-depth; newspaper=current events; magazine=latest developments) that may be used to complete the research

Skill 1.5: gather background information from print and non-print sources, including general reference sources

Information Fluency Objective 2: Identify, select, access and retrieve information effectively and efficiently

Skill 2.1: identify and differentiate the characteristics of the information retrieval systems (e.g., online catalog (OPAC), databases, and Web resources)

Skill 2.2: apply search terms appropriate to the retrieval system selected

- + author; title; author/title; call number; keyword; subject heading; phrases
- + understand the distinctions between subject and keyword searching
- + understand subject headings and synonyms
- + narrow or expand a search
 - apply Boolean operators
 - apply limiters (e.g., scoping, material types)
 - apply truncation

Skill 2.3: differentiate between types of information sources (e.g., a book, a journal article and a Web site) by understanding the elements and format of a citation for a wide range of resources

Skill 2.4: understand the differences between primary and secondary sources

Skill 2.5: understand the differences between scholarly and popular sources

Skill 2.6: understand classification schemes (e.g., call number or indexes) used to locate information within the library

Skill 2.7: understand the bibliographic components of citations in result lists, bibliographies and foot/endnotes to use for locating additional materials

Outcome 2: Students will search academic databases effectively.

Information Fluency Objective 3: Search relevant academic databases effectively

- Skill 3.1: identify topic-appropriate databases and resources for chosen topic
- + differentiate between specialized reference sources in the major field (e.g., subject dictionaries), periodical indexes (e.g., bibliographic) and databases (e.g., bibliographic, data, and full text)
 - + select relevant subject databases
- Skill 3.2: search using
- + keywords and phrases
 - + subject headings and synonyms
- Skill 3.3: revise search strategies to expand or narrow results
- + combining terms using one Boolean operator
 - + application of two Boolean operators in same search request
 - + limiters
 - + truncation
 - + proximity
- Skill 3.4: interpret the search results list for relevance
- + review abstracts for search terms to determine relevance to the search and especially prior to downloading or printing
- Skill 3.5: check for full text availability
- + within database
 - + linking to other databases
- Skill 3.6: mark, e-mail, export, save, and print results
- Skill 3.7: access databases from off-campus

Outcome 3: Students will evaluate information sources.

Information Fluency Objective 4: Evaluate information and information sources critically

- Skill 4.1: summarize the main ideas to be extracted from the information gathered
- Skill 4.2: determine the scope, audience, purpose (e.g., government; business; individual) and currency of the information found in any source
- Skill 4.3: determine the authority, credibility (e.g., sources cited), accuracy, reliability (e.g., scholarly or popular) and objectivity of sources
- Skill 4.4: distinguish point of view (e.g., ideological positions, assumptions, prejudices, biases), claims being advanced (including deceptions or manipulations), and forms of substantiation being used
- Skill 4.5: analyze the relevance of information against the information need

Outcome 4: Students will demonstrate ethical use of information.

Information Fluency Objective 5: Ethically and legally access and use information

- Skill 5.1: recognize what is copyrightable intellectual property
- + understand what and what is not in the public domain
 - + distinguish between free and fee-based access to information

- Skill 5.2: understand how to legally obtain, store, and use text and data, including sound and images
- Skill 5.3: understand how to avoid plagiarism by appropriately summarizing, paraphrasing, quoting and acknowledging sources
- Skill 5.4: cite correctly printed, multimedia, and online sources
- + select and consistently use a citation style as required by the course or appropriate to the discipline
 - + understand the need to include “” in text for exact phrases
 - + include the appropriate information needed to include in citations for printed books, e-books, print articles, database articles and Web sites.

Outcome 5: Further develop research skills within their discipline.

Information Fluency Objective 6: Improve student information fluency by further developing their research skills within their major area of study.

- Skill 6.1: select, locate, organize and evaluate information from any source specific to the discipline
- Skill 6.2: examine and compare information from various sources in order to evaluate reliability, validity, accuracy, authority, timeliness, objectivity (point of view or bias) specific to the discipline
- Skill 6.3: demonstrate awareness of the scholarly communication processes for the literature of the discipline
- Skill 6.4: identify resources not owned by the Sawyer Library and select means for their retrieval

INSTRUCTION AND GUIDANCE

Staff of the Mildred F. Sawyer teach many of these skills through application of these methods:

- conducting synchronous instruction at time of the request for research assistance via a multiplicity of communications means
- conducting open and scheduled synchronous instruction (workshops)
- conducting subject- and topic-specific instruction classes held in the library or in another part of the University to support specific courses at the request of faculty
- creating help and research guides and specific tutorials accessible asynchronously on the library's Web site
- conducting orientations to library services via synchronous library tours, asynchronous self-paced Web-based tours, and through the availability of printed information products.

ASSESSING LEARNING OUTCOMES

Conducting student learning outcomes assessments is intended to improve library services.

Outcomes, as viewed by the Association of College and Research Libraries' *Task Force on Academic Library Outcomes Assessment Report* (available:

<http://www.ala.org/ala/mgrps/divs/acrl/publications/whitepapers/taskforceacademic.cfm>) are the ways in which library users are changed as a result of their contact with the library's resources and programs. Assessment efforts also demonstrate organization accountability of the

institution's mission. The results from the outcomes assessment efforts should provide the staff of the Mildred F. Sawyer Library with a basis for informed judgment on how well instructional methodologies work; identify areas for improvement; and, how the library contributes to students' skills, attitudes and values.

Direct Methods

- pre- and post-tests measures including quizzes or in-class exercises
- observational assessment as librarians and/or faculty roam the instruction area while students conduct course-related activities
- external standardized testing
- reviewing or scoring student skills or projects by applying a rubric (see Appendix A)

Indirect Methods

- student satisfaction surveys
- interviews and/or focus groups with students and/or faculty
- student engagement surveys (e.g., NSSE)
- analyzing reference questions asked by students
 - + for example, do reference questions change as a semester progresses from directional and basic to content-oriented and advanced?
- analyzing collected vendor statistics
 - + for example, as a result of library instruction to improve database search effectiveness by applying Boolean operators, do the number of hits per search decline as a semester progresses as students appropriately apply Boolean search strategies to more effectively find information?

Evaluation of the Library's Instruction Program

- instruction statistics
 - + number of sessions
 - + number of students attending
- faculty feedback following an instruction session
- student feedback and self-assessment -- asking what students learned from attending a library instruction session by using classroom assessment techniques such as minute papers or muddiest point
- library instructor self-evaluation
- comments/feedback concerning the library's Web-based tutorials

Appendix A: Rubric

Department: Mildred F. Sawyer Library

Goal: Students demonstrate the ability to recognize when information is needed and have the ability to locate, evaluate, and use information ethically, legally and effectively.

Outcome: Students will understand general library skills

Objective 1: Define the research question

<u>Skills</u>	<u>Below Expectations</u>	<u>Meets Expectations</u>	<u>Exceed Expectations</u>
1.1: determine scope (e.g., nature and extent) of information need	- is unable to formulate a research question based upon an information need	- identifies information need based upon topic	- identifies information need based upon topic;
1.2: identify key concepts and terms needed to construct effective searches	- is unfocused and unclear about search strategy	- identifies key concepts and terms	- breadth and depth of topic may have been modified based upon the information identified
1.3: become familiar with the resources and services provided by the library to meet information-related course assignments needs	- information gathered lacks relevance, quality and balance	- develops a clear research statement, and formulates a question based upon information need	- designs concise, focused research objective appropriate to the assignment
1.4: identify types (e.g., journals, government publications, books, web presentations) and treatments of materials (e.g., book=in-depth; newspaper=current events; magazine=latest developments) that may be used to complete the research	- topic has an imprecise or unclear focus	- knows basic searching tools and how to use them	- identifies the purpose and audience of potential resources
	- research question(s) is too broad or vague and does not adequately focus the topic	- executes an appropriate search strategy	- identifies the value differences of potential resources
	- cannot identify and has no knowledge of using basic searching tools	- finds a variety of relevant information resources	- defines or modifies information need to achieve a manageable focus
	- cannot locate information beyond local and print resources	- identifies the value differences of potential resources	
1.5: gather background	- does not confer with instructors, librarians and peers to identify a	- confers with instructors, librarians and peers to identify a research topic	
		- refines topic so that it is appropriately specific	

<u>Skills</u>	<u>Below Expectations</u>	<u>Meets Expectations</u>	<u>Exceed Expectations</u>
information from print and non-print sources, including general reference sources	<ul style="list-style-type: none"> - research topic - does not know about / use general information and reference resources to provide background information and contextual information 	<ul style="list-style-type: none"> - knows about / uses general information and reference resources to provide background information and increase familiarity with the topic 	

Outcome: Students will understand general library skills

Objective 2: Identify, select, access and retrieve information effectively and efficiently

<u>Skills</u>	<u>Below Expectations</u>	<u>Meets Expectations</u>	<u>Exceed Expectations</u>
2.1: identify and differentiate the characteristics of the information retrieval systems (e.g., online catalog (OPAC), databases, and Web resources) 2.2: apply search terms appropriate to the retrieval system selected + author; title; author/title; call number; keyword; subject heading; phrases + understand the distinctions between subject and keyword searching + understand subject headings and synonyms + narrow or	<ul style="list-style-type: none"> - identifies only convenient and known sources of information (e.g., textbook) - does not know how to refine search - no knowledge of how information is organized (library classification systems) and cannot locate items in the library - does not understand the different types of information sources - unsuccessful at locating information on the topic 	<ul style="list-style-type: none"> - constructs a search strategy appropriate to the information retrieval system - can find a sufficient number of information resources to meet the information need - can evaluate search effectiveness by reviewing the resources found - looks at sources; see differences and selects from among them - keywords and subject headings relate to the research topic - clear use of basic and advanced 	<ul style="list-style-type: none"> - extensive information sources are identified in numerous potential formats - can analyze search results - can evaluate the appropriateness of the variety of multiple relevant sources of information that directly fulfill an information need - applies a variety of creative and flexible information search techniques - applied the search techniques consistently well across all library resources

<u>Skills</u>	<u>Below Expectations</u>	<u>Meets Expectations</u>	<u>Exceed Expectations</u>
expand a search - apply Boolean operators - apply limiters (e.g., scoping, material types) - apply truncation 2.3: differentiate between types of information sources (e.g., a book, a journal article and a Web site) by understanding the elements and format of a citation for a wide range of resources 2.4: understand the differences between primary and secondary sources 2.5: understand the differences between scholarly and popular sources 2.6: understand classification schemes (e.g., call number or indexes) used to locate information within the library 2.7: understand the bibliographic components of citations in result lists, bibliographies and foot/endnotes to use for locating	<ul style="list-style-type: none"> - cannot construct or implement search strategies - cannot retrieve information effectively from most sources - cannot assess the quality and relevance of search results - cannot identify the appropriate retrieval tool for a search - does not use library resources, including the catalog and general or multi-disciplinary databases - cannot correctly identify the type of work represented by a citation - does not understand that materials in an academic library are primarily arranged by subject, but sometimes also by format 	<ul style="list-style-type: none"> search techniques - knows about library classification systems and how to locate items in the library - locates needed information on the topic from a variety of sources - differentiates between primary and secondary materials - identifies key words and synonyms and related terms - identifies gaps in retrieved information and determines if search strategy should be revised - identifies the appropriate retrieval tool for a search - uses library resources, including the catalog and general or multi-disciplinary databases - can correctly identify the type of work represented by a citation - understands that materials in an academic library 	<ul style="list-style-type: none"> - applies all search strategies as necessary when needed - understands and can differentiate between the different types of information and explain their application - investigates the scope, content and organization of information retrieval systems - uses various classification schemes and other systems to locate information resources and identifies specific sites for exploration - reviews information retrieval tools used and expands to include others as needed

<u>Skills</u>	<u>Below Expectations</u>	<u>Meets Expectations</u>	<u>Exceed Expectations</u>
additional materials		are primarily arranged by subject, but sometimes also by format	

Outcome: Students will search academic databases effectively

Objective 3: Search relevant academic databases effectively

<u>Skills</u>	<u>Below Expectations</u>	<u>Meets Expectations</u>	<u>Exceed Expectations</u>
3.1: identify topic-appropriate databases and resources for chosen topic + differentiate between specialized reference sources in the major field (e.g., subject dictionaries), periodical indexes (e.g., bibliographic) and databases (e.g., bibliographic, data, and full text) + select relevant subject databases 3.2: search using + keywords and phrases + subject headings and synonyms 3.3: revise search strategies to	<ul style="list-style-type: none"> - if one source type/database is appropriate for the task, chooses the wrong one - does not understand that there are different databases available for different purposes/subjects - does not understand that all databases do not provide the same depth of content - does not understand how to follow the trail from the database citation to the bibliographic catalog records (e.g., to determine ownership) - cannot conduct a search using keywords, phrases or subject headings - cannot determine when additional information is 	<ul style="list-style-type: none"> - knows how to choose the appropriate database to use - if one source type/database is appropriate for the task, uses the right database and chooses an adequate selection of sources from it - understands that there are different databases available for different purposes/subjects - understands that all databases do not provide the same depth of content - understands how to follow the trail from the database citation to the catalog records (to determine ownership at the very least) - can conduct 	<ul style="list-style-type: none"> - uses the appropriate subject or specialized databases when researching topics - if one source type/database is appropriate for the task, has consistently chosen appropriate sources from the right database

<u>Skills</u>	<u>Below Expectations</u>	<u>Meets Expectations</u>	<u>Exceed Expectations</u>
expand or narrow results + combining terms using one Boolean operator + application of two Boolean operators in same search request + limiters + truncation + proximity 3.4: interpret the search results list for relevance + review abstracts for search terms to determine relevance to the search and especially prior to downloading or printing 3.5: check for full text availability + within database + linking to other databases 3.6: mark, e-mail, export, save, and print results 3.7: access databases from off-campus	needed - cannot revise a search to expand, narrow or limit the results - does not know to review abstracts to determine relevance of search results - does not know how to determine if full text is available - does not know how to mark results for emailing, saving or printing - does not know how to access the library's databases from off-campus	search using keywords, phrases or subject headings - revises a search to expand, narrow or limit the results - knows to reviews abstracts to determine relevance of search results - knows how to determine if full text is available - knows how to mark results for emailing, saving or printing - knows how to access the library's databases from off-campus	

Outcome: Students will evaluate information sources

Objective 4: Evaluate information and information sources critically

<u>Skills</u>	<u>Below Expectations</u>	<u>Meets Expectations</u>	<u>Exceed Expectations</u>
4.1: summarize the	- unaware of the	- makes judgments	- multiple and

<u>Skills</u>	<u>Below Expectations</u>	<u>Meets Expectations</u>	<u>Exceed Expectations</u>
<p>main ideas to be extracted from the information gathered</p> <p>4.2: determine the scope, audience, purpose (e.g., government; business; individual) and currency of the information found in any source</p> <p>4.3: determine the authority, credibility (e.g., sources cited), accuracy, reliability (e.g., scholarly or popular) and objectivity of sources</p> <p>4.4: distinguish point of view (e.g., ideological positions, assumptions, prejudices, biases), claims being advanced (including deceptions or manipulations), and forms of substantiation being used</p> <p>4.5: analyze the relevance of information against the information need</p>	<p>criteria that may be used to judge information quality</p> <ul style="list-style-type: none"> - little effort is made to examine and thereby judge the information retrieved - evaluation was merely an assertion of credibility without evidence to support claim - cannot judge relevance - accepts all information found - does not check for timeliness of information - shows no evidence of source evaluation - cannot distinguish between facts and opinions 	<p>about information to keep and discard</p> <ul style="list-style-type: none"> - can judge relevance - checks dates for information found - understands that not all information is trustworthy - employs evaluation strategies to determine credibility - analyzes information from various sources to assess accuracy, authority and timeliness - examines and compares information from various sources to evaluate reliability, validity and timeliness, authority and point of view or bias - distinguishes between facts and opinions - analyzes resources and makes conscious decisions how each resource supports the development of the topic 	<p>diverse sources of information and viewpoints of information are compared and evaluated</p> <ul style="list-style-type: none"> - can use specific criteria to discern objectivity/fact from bias/propaganda - can distinguish gradations of relevancy - selects the most up-to-date information depending upon topic - recognized content bias and provides other research to balance that bias - analyzes quality information from various sources to assess accuracy, authority and timeliness - recognizes prejudice, deception or manipulation

Outcome: Students will demonstrate ethical use of information.

Objective 5: Ethically and legally access and use information

<u>Skills</u>	<u>Below Expectations</u>	<u>Meets Expectations</u>	<u>Exceed Expectations</u>
5.1: recognize what is copyrightable intellectual property + understand what and what is not in the public domain + distinguish between free and fee-based access to information 5.2: understand how to legally obtain, store, and use text and data, including sound and images 5.3: understand how to avoid plagiarism by appropriately summarizing, paraphrasing, quoting and acknowledging sources 5.4: cite correctly printed, multimedia, and online sources + select and consistently use a citation style as required by the course or appropriate to the discipline + understand the need to include “” in text for	<ul style="list-style-type: none"> - is unclear regarding the proper citation format - copies or paraphrases the information and ideas of others without giving credit - has rudimentary understanding of plagiarism - lacks knowledge of laws, regulations and institutional policies regarding use of information and shows evidence of plagiarism - does not cite items or ideas used and represents work attributable to others as his/her own - does not understand that citation implies the work cited has been read 	<ul style="list-style-type: none"> - gives credit for works used by quoting and listing references - understands plagiarism and does not plagiarize - cites sources in proper format - all sources used were cited in the bibliography - follows laws, regulations and institutional policies regarding use of information and shows understanding of plagiarism - identifies issues related to free vs. fee-based access in print and electronic environments - cites items or ideas used and does not represent work attributable to others as his/her own - understands that citation implies the work cited has been read 	<ul style="list-style-type: none"> - understands and recognizes the concept of intellectual property - can defend him/herself if challenged - can properly incorporate the ideas/published works of others into their own work building upon them - necessary copyright permissions are sought when needed - understands that ethical and legal constraints may limit the availability of certain kinds of information

<u>Skills</u>	<u>Below Expectations</u>	<u>Meets Expectations</u>	<u>Exceed Expectations</u>
exact phrases + include the appropriate information needed to include in citations for printed books, e-books, print articles, database articles and Web sites.			

Outcome: Further develop research skills within their discipline.

Objective 6: Improve student information fluency by further developing their research skills within their major area of study

<u>Skills</u>	<u>Below Expectations</u>	<u>Meets Expectations</u>	<u>Exceed Expectations</u>
6.1: select, locate, organize and evaluate information from any source specific to the discipline 6.2: examine and compare information from various sources in order to evaluate reliability, validity, accuracy, authority, timeliness, objectivity (point of view or bias) specific to the discipline 6.3: demonstrate	<ul style="list-style-type: none"> - sources chosen are either too popular in nature or from the wrong field 	<ul style="list-style-type: none"> - recognizes the core resources within a discipline - locates reliable, discipline specific information on the topic from a variety of sources - analyzes quality discipline specific information from various sources to assess accuracy, authority and timeliness - selects discipline-specific search vocabulary and develops an appropriate research plan - recognizes and uses subject 	<ul style="list-style-type: none"> - can evaluate the appropriateness of the variety of multiple relevant sources of information that directly fulfill an information need for the particular discipline - multiple and diverse sources of information and viewpoints of information are compared and evaluated appropriate for the discipline - is able to match criteria to a specific information need

<u>Skills</u>	<u>Below Expectations</u>	<u>Meets Expectations</u>	<u>Exceed Expectations</u>
<p>awareness of the scholarly communication processes for the literature of the discipline</p> <p>6.4: identify resources not owned by the Sawyer Library and select means for their retrieval</p>		<p>specific tools unique to the discipline</p> <ul style="list-style-type: none"> - explores resources at other libraries or at appropriate institutions outside of the library - develops awareness of professional and scholarly associations in the discipline and the literature they publish - applies disciplinary knowledge to evaluate the accuracy and usefulness of the resources - understands the structure of a scholarly work within a discipline - understands what constitutes primary, secondary and tertiary sources within a discipline - uses subjective and objective sources such as books reviews and citation indexes to determine the relative importance of an author and/or specific work 	<p>and can articulate how the information sources relate to the context of the discipline</p> <ul style="list-style-type: none"> - designs original, concise and focused research objective appropriate to the assignment

Appendix B: Relationship to NEASC Accreditation

This plan addresses sections of Standards Four and Seven

- 4.6 The institution ensures that students use information resources and information technology as an integral part of their education. The institution provides appropriate orientation and training for use of these resources, as well as instruction and support in information literacy and information technology appropriate to the degree level and field of study.
- 4.18 Graduates successfully completing an undergraduate program demonstrate competence in written and oral communication in English; the ability for scientific and quantitative reasoning, for critical analysis and logical thinking; and the capability for continuing learning, including the skills of information literacy. They also demonstrate knowledge and understanding of scientific, historical, and social phenomena, and a knowledge and appreciation of the aesthetic and ethical dimensions of humankind.
- 4.19 The major or area of concentration affords the student the opportunity to develop knowledge and skills in a specific disciplinary or clearly articulated interdisciplinary area above the introductory level through properly sequenced course work. Requirements for the major or area of concentration are based upon clear and articulated learning objectives, including a mastery of the knowledge, information resources, methods, and theories pertinent to a particular area of inquiry. Through the major or area of concentration, the student develops an understanding of the complex structure of knowledge germane to an area of inquiry and its interrelatedness to other areas of inquiry. For programs designed to provide professional training, an effective relationship exists between curricular content and effective practice in the field of specialization. Graduates demonstrate an in-depth understanding of an area of knowledge or practice, its principal information resources, and its interrelatedness with other areas.
- 7.1 The institution articulates a clear vision of the level and breadth of information resources and services and of instructional and information technology appropriate to support its academic mission and its administrative functions. Through strategic, operational, and financial planning, it works to achieve that vision.
- 7.5 Faculty, staff, and students are provided appropriate training and support to make effective use of library and information resources, and instructional and information technology.
- 7.8 The institution demonstrates that students use information resources and technology as an integral part of their education, attaining levels of proficiency appropriate to their degree and subject or professional field of study. The institution ensures that students have available and are appropriately directed to sources of information appropriate to support and enrich their academic work, and that throughout their program students gain increasingly sophisticated skills in evaluating the quality of information sources. (See also 4.6)