I. Department and Discipline: History, Programs, and Emphases
   A. Description of the Department

In 2002, the Department of Systems Analysis expanded its programs and faculty as a result of the overall expansion of the School of Engineering and Applied Sciences. The Department's new name is Computer Science and Systems Analysis. Programs now offered are computer engineering, computer science, and systems analysis. There is a new graduate program in computer science as well as a certificate program in software development. There are currently 19 regular faculty as well as visiting and part-time. Some of the newer faculty will eventually move to the new department of electrical engineering when it is created.

Computer Engineering: Computer engineering is an exciting discipline that blends topics from computer science (such as software) and electrical engineering (such as digital hardware) to create digital systems that benefit society. Computer engineers will be responsible for designing the next generation of "smart devices" that combine electronics and computers in devices ranging from every-day appliances such as TVs, to automobiles, and to robots designed to explore the solar system.

Computer Science: The Computer Science major provides graduates with a thorough understanding of the key principles and practices of computing, and the mathematical and scientific principles that underpin them. The program emphasizes software design and development. Computer Science graduates will lead the way in creating the next generation of software for computer systems ranging from individual personal digital assistants to the software used in the world-wide Internet.

Electrical Engineering: Electrical Engineering encompasses analysis, design, and synthesis of products and processes in a variety of areas. Such areas include electrical, electromechanical, and electronic systems, computers, and their associated components, as well as development of processes needed in such areas as audio, video, and image enhancement and recognition.

Systems Analysis is a holistic and logical approach to solving engineering and business problems. A system is defined as a set of components that work together toward a common goal. Systems analysts explore the behavior of current systems to model the relationships between the components to recommend modifications that will improve system performance. They also design new systems using the latest software tools and design techniques to satisfy customer requirements. Systems analysis is a multidisciplinary field that includes programming, probability and statistics, mathematics, software engineering and operations research.

B. Current Programs

Bachelor of Science

Majors

Applied Science with a major in Computer Engineering

Applied Science with a major in Computer Science
Applied Science with a major in Systems Analysis

Minors

Computer Science
Computer Engineering

Graduate Programs

Master's of Computer Science
Graduate Certificate program in Software Development

Related Departments and Programs:

Decision Sciences
Management Information systems
Mathematics
Operations Management
Computer Science and Systems Analysis
Paper Science and Engineering

II. Overview of the Collection

The Libraries collection is already reasonably strong in computer science and systems analysis. We need to continue to grow the collection in these areas to meet the anticipated expansion of faculty and students. Computer and electrical engineering are the new areas of primary concentration since, historically, we have not purchased heavily in these subjects.

In 2002, the Libraries were given an additional $100,000 in recurring funds to support the needs of the new programs. The most important new acquisition is the subscription to two electronic collections from the IEEE – those being ASPP, a core collection of 120 journals from 1998- and POP, a core collection of conference proceedings. Remaining funds go to the direct deposit book funds. This will be done on a decreasing annual basis until inflation on the subscription costs for the electronic acquisitions consumes all of the funding.

Other areas of the collection, such as mathematics and computer science support the program’s needs as well.

Membership in OhioLINK further strengthens our collection most notably in database access. The ACM Digitall Library is an important resource for this department as well as Inspec, and the Science Citation Index are all available. Access to computer science journals has increased considerably with the expansion of the EJC, Academic Search Premier, and the new subscriptions to the IEEE products..

III. OhioLINK

Miami is a charter participant (1992-) in the OhioLINK system, which brings together academic libraries and the State Library of Ohio in a consortium designed to foster cooperative lending, borrowing, and purchasing of print, electronic, and other media resources. Through the OhioLINK consortium we are able to acquire a wide range of digital resources: electronic journals, indexing and research databases, e-books, and digital media (images, sound files, videos). OhioLINK also provides several related services, including a central union catalog, interlibrary borrowing of books (P-Circ), interlibrary loan of journal articles, and state-wide chat reference; an improved system of cooperative collection building is envisioned. In addition, through OhioLINK members can make last-
copy decisions and share information about discards. If an item is to be withdrawn because of
condition or loss and it is the only (last) copy in the state, attempts should be made to replace it
and/or offer to other consortium members to maintain that intellectual content within the state and
available to the Ohio community. OhioLINK has selected preferred book and serials vendors, Yankee
Book Peddler and Zwets, although member libraries are not required to use them. One key service is
the archiving of nearly all electronic journals and full-text databases.

OhioLINK governance includes several advisory committees: CIRM (Cooperative Information
Resource Management) selects resources and determines a funding model for acquiring them, while
the User Services Committee works with issues of access and functionality. Subject groups exist in
various areas that are venues for selection personnel to meet and discuss new or needed resources,
and these will be important in future cooperation initiatives. OhioLINK uses several purchasing
models for its digital resources: capital, war-chest, npr, and pay-to-pay (these are explained
elsewhere).

OhioLINK participation affects local collection development decisions in several ways. The consortium
has made possible the addition of hundreds of e-journals, e-books, digital media, and research
databases that Miami could not have purchased on its own; on the other hand, OhioLINK
commitments nearly always take precedence over local, and our short-term and long-term planning
has to take into account OhioLINK opportunities and commitments. Although each OhioLINK library
retains its own acquisitions budgets, because of the constraints of state finances it is important to
check holdings or plans of other institutions before purchasing especially higher cost items. Because
some types of material do not normally circulate on OhioLINK (media, journals), purchasing decisions
are not made solely on the basis of OhioLINK holdings, however. As always, faculty input is critical in
determining whether something needs to be owned by Miami or can be accessed within a week or so
from another school.

IV. Materials
A. Formats

Books: Monographs, handbooks, reference books, occasional proceedings. Sources for these are
primarily industry and publisher book catalogs and the science approval plan with Yankee Book
Peddler. See “electronic” below for further information.

Periodicals: The Library policy requires that print formats are dropped as electronic versions are
added. We now subscribes to over 6000 e-journals many of which are in computer science or related
fields. There is no current funding to add additional journal titles locally without canceling existing
titles. Any new journals added through OhioLINK or locally will be electronic only.

Microforms, non-book formats, reprints, out-of-print: Very little purchased.

Textbooks: Purchased only upon suggestion of faculty.

Dissertations: Not usually ordered except upon faculty request.

Electronic: All our computer science database tools are web-based. We anticipate that the serial
collection will be completely electronic in a short time. In addition we have access to the Safari
database of e-books, a collection of IT books. As a result we have buying less computing and IT
books in print format. We anticipate increasing numbers of computer science and IT books to be
purchased in e-book format and less in print.

Patents: U.S. patent file searching and the fulltext/images of the patents are available from the U.S. Patent
Office Website.
B. Language, Publishers, Geographical Emphases
Language: English language only

Publishers: Emphasize publications from major professional associations and major United States academic publishers.

C. Southwest Regional Depository and Zero-Growth

Miami has participated since the early 1990s in a shared remote storage facility with Wright State University, University of Cincinnati, and Central State University located on the Miami Middletown campus. The Southwest Regional Depository houses over 1.6 million volumes in print and media collections, including monographs, journal runs, and sound recordings. The MiamiLINK catalog notes location of these items as SW Dep; librarians also refer to it as SWORD, the Depository, and regional storage.

Decisions on sending items to storage are based on several criteria, primarily use data. There are circulation and in-house use records for books, and, generally, we will send books not circulated or used more than once in the past ten years to the Depository. Items in areas no longer taught at Miami, not in English, or in fragile condition are also candidates. Occasionally newly added items (mainly gifts with older imprints but sometimes newly published titles) will be sent directly to the Depository.

All the Oxford libraries are in zero-growth mode, so as new materials are added, other material must be moved out, and each library has its own set of procedures for identifying materials to transfer to the Depository. In addition to regularly reviewing the book collections, librarians review journal runs for disposition as well, especially as electronic editions become available in OhioLINK’s Electronic Journal Center (where they are archived) or as JSTOR adds them.

Items housed in the depository are available to be sent to the main campus within a few days. The MiamiLINK catalog includes a “Request Item” feature that patrons can use to request complete items or online copies of journal articles or book chapters.

D. Special Concerns

Expansion of School of Engineering.

Funding to continue to support the growth of the computer science programs is a concern given the level of inflation we face for our database products and electronic journal subscriptions.

We would like to provide access to the full IEEE digital library, IEL, which would include the pre-1998 materials as well as the IEEE standards and IEE publications.

Identifying funds to add new serial titles and materials especially for new faculty and programs is always a concern.

Areas of the approval plan, specifically electrical and computer engineering need to be examined for conversion to book rather than slip which will in turn increase the cost of the approval plan.

E. Guidelines

The department regularly sends prioritized requests for purchase; additional selection is guided by the courses listed in the Miami Bulletin and the discretion of the selector.

F. Acquisitions Issues

Approval plan with Yankee Book Peddler and a slips-only plan with Blackwell/Oxford.

V. Resource Sharing
OhioLINK membership of course provides an invaluable resource sharing capability. The movement is towards cooperative collection development across the state of Ohio.

Some contact with other computer science selectors is facilitated by membership in the OhioLINK Subject Group for Computer Science/Engineering.