

Collection Assessment for BIOMEDICAL ENGINEERING
University of Texas at Dallas Libraries
August 2006

1. List any library holdings added in the past three years in anticipation of the program

The Library continues to build its collections in support of all programs at UT Dallas. The Library continually updates the Book Approval Program used to acquire monographs. The Program was amended in 2006 to become more comprehensive for the relevant aspects of engineering including biomedical subjects. The present patterns are not delivering enough items in this discipline to support a doctoral degree. A 50% increase in the number of titles acquired each year is warranted to support doctoral research in this subject.

Shortfalls are especially acute in applied bioinformatics, nuclear physics and medicine, signal theory, digital image processing, and pattern recognition. Coverage is adequate in traditional computer science and electrical engineering, but is more limited in the areas in applied cognition and neuroscience and related biological subject areas.

2. Describe library holdings specifically relevant to the proposed program, noting strengths and weaknesses. If there are guidelines for the discipline, do current holdings meet or exceed standards? Describe planned actions that would maintain strengths and/or remedy weaknesses.

JOURNALS. The Library used a number of resources to analyze the collection in biomedical engineering including Ulrich's Periodicals Directory and the Journal Citation Reports from ISI. The Journal Citation Reports considers 42 biomedical engineering journals as most relevant.

At present, the University of Texas at Dallas has 30 (71%) of the 42 active, academic/scholarly journals in biomedical engineering. Of the titles not currently received by the Library, an additional 21% of the titles are owed by the University of Texas Southwestern Medical Center at Dallas or the University of Texas at Arlington.

The Library is particularly strong in its journal offerings because of the University of Texas System Digital Library which enables component schools to consortially purchase journals. This arrangement provides UT Dallas access to many medical periodicals owned by the System's health related components. At this time, no additional funds are required to purchase additional journal titles. The journal collection available at UT Dallas is more than adequate to begin a program. The addition of 4 titles should be added within the first 3 years of initiation of the program. They are the ASAIO

Journal, Biorheology, Journal of Biomechanics, and the International Journal of Artificial Organs at an annual cost of \$3,100.

ARTICLE DATABASES. Research suggests that the UT Dallas Libraries have superior database coverage for bioengineering, biomaterials, and biomedical research. The Library's complement of engineering and medical databases preclude the need to add any products in this area. CSA's Bioengineering database was considered but not recommended in light of research that shows that over 90% of the literature covered in it is duplicated in Compendex (Engineering Village), INSPEC and Chemical Abstracts (in SciFinder Scholar), all of which we currently subscribe to.

BOOKS. The University of Texas at Dallas book collections were reviewed using two different approaches: searching library catalogs by subject across three institutions and analyzing possible titles which could have been acquired through our book approval plan from Blackwell. The approval plan preorders materials for UT Dallas based on a set of criteria determined by the librarians. The materials are received as they are published.

The Engineering and Computer Science Librarians reviewed the book collections in the field of biomedical engineering for 2 institutions granting a doctorate (Rice University and Carnegie Mellon University). The decision to compare these two institutions was based on the quality of their degree programs and approximate size of the institutions. The collections were compared to see what titles might be needed for the proposed new classes and the number and cost of titles necessary to support future research.

The librarians compared the book collection for the years 2000-June 2006. A search of McDermott Library catalog for "biomedical engineering" as a subject returned 21 titles for the years 2002-2006. The same search at Carnegie Mellon returned 28 titles. For Rice University's Fondren Library, the search yielded 56 titles.

A search of the approval plan database showed that if UT Dallas had selected the appropriate subjects in the approval plan, the Library should have purchased 79 titles at a cost of \$10,111.00. NOTE: The average cost of a book in biomedical engineering (based on Blackwell) is \$128.00.

SUMMARY. The Library is deficient in book material and would need to purchase a retrospective collection (2000-2006) of 80 titles (\$10,240). In addition, the Library would purchase a new, major reference work, Wiley Encyclopedia of Biomedical Engineering (6 vol. set) (\$1,650) to begin the program. In anticipation of the biomedical engineering programs, the Library activated the relevant sections of the approval plan in order to expand the collection at a rate of 35 additional titles per year over the present spending patterns (\$4,500).

Overall, the biomedical engineering collection will require increased spending during the first 3 years of the program to become adequate for graduate and faculty research:

4 additional journals (\$3,100 per year)	\$ 9,300
1 major reference work	\$ 1,650
80 retrospective books (2000-2006)	\$10,240
35 additional books per year through expanding our approval plan (\$4,500 per year)	<u>\$13,500</u>
Total	\$34,690

3. Describe cooperative library arrangements that would be available to students in this program.

The Libraries of the University of Texas at Dallas are active participants in Interlibrary Loan Services as administered by Amigos-OCLC. As a participant, the Library can borrow materials from other libraries willing to loan their items. In general, the Library can borrow most items for a user for a period of 3 weeks. In addition, the Library provides articles from journals not owned. The article is delivered electronically to an email address.

Secondly, the Library subscribes to thousands of electronic resources through cooperative agreements including the UT System, TexShare (Texas State Library and Archives), Amigos, and the local Phoenix library consortium.

4. Provide Library Director's assessment of library resources necessary for the proposed program.