

Collection Development for the College of Engineering at Louisiana State  
University Libraries: Liaison Responsibilities and Duties

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# **Collection Development for the College of Engineering at Louisiana State University Libraries: Liaison Responsibilities and Duties**

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## **ABSTRACT**

Louisiana State University (LSU) is a research-intensive co-educational institution and the largest public university in the state of Louisiana. In partnership with federal agencies and private businesses, it operates some of the most important research projects in the nation. LSU Libraries supports this research as well as the instructional mission of the university by means of a subject liaison system that incorporates collection development duties. Under the authority of the Collection Development Coordinator, collection development for all schools and departments is assigned to individual librarians. In this chapter, collection development is described generally, with emphasis on monograph selection, and as it pertains to the LSU College of Engineering (COE).

## **INTRODUCTION**

**Louisiana State University**

LSU (Baton Rouge) is the Flagship University of the LSU System and is the only public university in Louisiana designated as having very high research activity (RU/VH) by the Carnegie Foundation for the Advancement of Teaching. Designated as a Land, Sea, and Space Grant institution, the mission of Louisiana State University is the generation, preservation, dissemination, and application of knowledge and cultivation of the arts. LSU's instructional programs include bachelor's degrees in 74 major fields, master's degrees in 73 major fields, and doctoral degrees in 47 major fields. Average undergraduate student enrollment is 26,000.

In implementing its mission, LSU is committed to offering a broad array of undergraduate degree programs and extensive graduate research opportunities designed to attract and educate highly qualified undergraduate and graduate students; employing faculty who are excellent teacher-scholars, nationally competitive in research and creative activities, and who contribute to a world-class knowledge base that is transferable to educational, professional, cultural, and economic enterprises; and using its extensive resources to solve economic, environmental, and social challenges (Louisiana State University, 2006).

## **LSU Libraries**

The LSU Libraries provides to the university and to the surrounding community access to more than four million volumes, tens of thousands of e-books and serials, and over 400 databases. The general collections support the degrees offered by the university with a selection emphasis on scholarly research publications. The LSU

Libraries is a federal regional depository library as well as a U.S. patent and trademark depository library. Reference assistance is provided in person and offered through email, online chat, and telephone services.

Through Ingenta, a document delivery service, the LSU Libraries system provides access for faculty and student patrons to articles in serials to which LSU does not subscribe. LSU also participates in the OCLC Reciprocal Faculty Borrowing Program as part of the services of the Interlibrary Borrowing Department. Requests for monographic material not in the LSU collections are handled through the ILLiad System.

The LSU Libraries is a member of the Louisiana Academic Library Information Network Consortium (LALINC), which supports cooperative and collaborative projects, including reciprocal borrowing agreements. The LSU Libraries is also a founding member of LOUIS: The Louisiana Library Network, a consortium of Louisiana colleges, universities, and special libraries. LOUIS provides information technology solutions to consortium members in a cloud computing environment that includes an integrated library system, a digital library, interlibrary loan, electronic scholarly resources, consulting, authentication, training, communication, and operational support (Louisiana State University, 2011).

### **The Liaison Program**

The subject liaison program at LSU Libraries was established through the Collection Development Department during the early 1990s when more than fifty disciplines were identified and paired with specific librarians. Currently, librarians working in all units of the LSU Libraries (e.g., cataloging, reference, archives) are

assigned to academic disciplines in order to facilitate information exchanges with faculty and students in those disciplines. Having a dedicated librarian to interact with the faculty of the specific departments has served several purposes, including advising on issues related to collection development, developing library circulation policies, and assisting with serials management. Additionally, through the liaison program, librarians offer information retrieval sessions to faculty and students through a variety of venues and provide critical information updates regarding library changes of importance to patrons. Conversely, the librarians also obtain information from faculty regarding research and teaching needs that help inform the selections of new information resources.

## **BACKGROUND: A REVIEW OF SOME OF THE PERTINENT LITERATURE PRIMARILY FOCUSING ON MONOGRAPH SELECTION**

Because of LSU's collection development policy that, in effect, splits monographic and serial selecting duties between the subject liaisons (monograph selection duties) and the Collection Development Coordinator (serial selection duties), this literature review will focus on monographic selection articles. However, one finds relatively few current articles that deal exclusively with the subject of selecting monographic materials specifically for engineering. Conversely, one finds a substantial number of articles that focus on the many aspects of engineering librarianship which are not specific to monographic collection development but instead are typically concerned with electronic journal resources and how to integrate them into a collection development plan. These articles make little or no reference to monographic materials.

This dearth of professional discourse on the topic can make it challenging to craft a comprehensive literature review without reaching back in time and then expanding the results of a search to include articles from countries outside of North America. Thus, this literature review will expand its range to include sections on “Studies from Previous Decades” and “Studies from Outside of the United States.”

### **Studies from Previous Decades**

When looking back to a time before the dominance of electronic resources—specifically to 1989 and the special issue of *Science & Technology Libraries* titled “Collection Management in Sci-Tech Libraries”—one finds a gold mine of dated, but otherwise cogent, advice on managing a collection of sci-tech materials. That special issue is comprised of twelve sections, the first six of which are articles on collection management. Ellis Mount, the editor of *Science & Technology Libraries*, gives an overview of the basics of collection management in the first article “Collection Management in Sci-Tech Libraries: An Introduction.” Elements discussed include policies, selection criteria, selection tools, weeding, and “costs of literature” (pp. 3-23). The most timeless, hence useful, elements include those on policies and on selection criteria. The outdated, hence least useful, elements include the one on selection tools and the one addressing the cost of sci-tech materials.

The second article is a discussion of how (if at all) weeding a sci-tech collection differs from weeding a general collection. The author, Beatrice Kovacs (1989), concludes that it essentially does not differ and also states “any weeding that occurred had little impact on . . . decision-making for selection and collection development. . . .

Most of the weeding occurred as a result of collection development decisions rather than having impact on those decisions” (p. 29).

The special collection management issue moves on with an article by Patricia B. Yocum on the high cost of supporting the academic science library collection and the threat that this fiscal impact has on the academic library in general and on science collections specifically. Yocum (1989) bemoans the fact that due to budget constraints, librarians “may be converting many academic science libraries into working collections” (p. 37). This worry about limiting collections to only what is most recent and basic—without the addition of historically significant or tangentially related materials—and the rest of what Yocum refers to as “crises in science library budgets” (p. 43) may have been news back in 1989. However, time has proven these dire warnings to be all too commonplace and accurate—as our academic libraries struggle to maintain up-to-date collections of monographs, serials, and electronic materials in a rapidly developing and costly technological environment.

Another article, by Donald G. Frank and Christine Kollen, is entitled “Humanities and Social Science Librarians in the Science-Engineering Library: Utilization and Implications for Effective Collection Development and Reference Services.” This section devotes most of its space to the issues of collection development as done by non-science discipline trained librarians. While Frank and Kollen (1989) grant that “proficiency as a selector of scientific and technical materials may be attained by the humanities or social sciences reference librarian” (p. 64), they also acknowledge that along with basic knowledge of collection development procedures and a “sense of

commitment [to those procedures],” humanities and social science reference librarians need “an appreciation of the scientific and technical literature.”

How does a non-science trained librarian get that appreciation? One of the suggested methods for attaining this appreciation is simply to be attentive to the needs or requests of the faculty and students who use the sci-tech materials for teaching and research. Frank and Kollen (1989), go one step further by suggesting another method involving “formal orientation and training” (pp. 67-69) done so that librarians with academic backgrounds in the humanities or social sciences are exposed to factors of influence in the hard sciences and technological fields.

### **Recent Studies in U.S. Journals**

The observation that many of the articles studying or reporting on collection development (in engineering especially) are not particularly contemporary is addressed directly in an article by Williams and Fletcher (2006) which “updates and expands on previous citation analysis studies that focused on engineering, especially those completed [in 1977, 1978, and 1984] by [Harry M.] Kriz” (p. 11). Acknowledging that the Kriz studies were potentially quite outdated, the authors used a similar methodology as Kriz had but analyzed citations from “250 [engineering] master’s theses published at a land grant university [Mississippi State University (MSU)] between 2000 and 2004”(p. 11).

While the results of the 2006 MSU study reinforced Kriz’s findings that journals were cited more frequently than other formats in engineering graduate papers, when looking more closely at the results, Williams and Fletcher (2006) determined that the ratio of journal citations to monograph citations varied greatly among the sub-disciplines

in engineering. In other words, after breaking out the fields of engineering (mechanical, chemical, civil, electrical, etc.) the authors found that even though the total number of journal citations exceeded the total number of book/conference proceedings, the larger number of journal citations existed in only two (agricultural and biological engineering and chemical engineering) of the eight sub-disciplines that were included in the study.

This information is useful to the subject liaison because it emphasizes two things: one, that selecting for the broadest definition of engineering titles will not be sufficient to discern the needs of each field of engineering; and, two, that monographs still have value for collections that support the research of engineering graduate students (Williams & Fletcher, 2006).

The nexus between acknowledging the value of monographs to an engineering collection and the trend toward electronic access is addressed in a recent article by Bierman, Ortega, and Rupp-Serrano (2010), "E-book Usage in Pure and Applied Sciences." From the findings of a series of interviews of teaching faculty at the University of Oklahoma Colleges of Arts and Sciences and Engineering conducted by the Director of Collection Development, the Chemistry and Mathematics Librarian, and the Engineering Librarian, the following general conclusions were drawn about the use of e-books in applied sciences: faculty in applied sciences seem to react to and use e-books in the same ways as do faculty in pure sciences; that is, they are enthusiastic about the convenience and portability of online access while at the same time are concerned about ease of reading on a screen, clean and simple page lay-outs, clear access to hyperlinking and multimedia formats, and ease of printing (p. 86). The most important information gleaned from this study and the resulting article is that librarians in

applied sciences like engineering need to be mindful of the preferences of the faculty they serve and not make collection development decisions in a vacuum. While engineering faculty may be comfortable with e-books as a broad category of format, individual faculty members may have some very specific likes and/or dislikes about certain e-book vendors and e-book platforms.

### **Studies Outside of the United States**

As previously stated, the lack of current literature on collection development for the technical disciplines invites one to look further, beyond American library literature, in order to find more recently published studies or analyses. Such a search brings up several articles addressing the topic of collection development in the technical disciplines in South Asian countries. Included among these is an article by Doraswamy (2008), who offers “An Analysis of Books Used by Computer Science and Engineering Students at Siddhartha Engineering College” located in Andhra Pradesh, India. From this study, the author generated lists showing numbers of books, types and ages of books, and the most popular books (and publishers/country of origin) used by final-year computer science and engineering students. A further distinction was made by gender in order to determine whether or not female students used more books than male students.

While the information gained from this study is most useful to the specific institution in India, some general observations could be made about the book-using behavior of computer science and engineering students at the college level. In the Conclusions and Recommendations section of the article, Doraswamy indicates that “students used an average of 18 books during their final year of study. Males used

more than females on average (22 vs. 12). Most books had a single author and were published during the ten years preceding the study” (p. 8). Another factor that the study brought to light was that students preferred books published in India. One could extrapolate from this finding to claim that computer science and engineering students would more commonly use books published in the country in which they were studying (Doraswamy, 2008).

### **Inside the U.S. Government**

The Technical Report Archive & Image Library (TRAIL), an initiative of the Greater Western Library Alliance/University of Arizona and the Center for Research Libraries, encompasses digitized science and engineering technical reports from six report series: four of them by the U.S. Atomic Energy Commission; one of them by the U.S. National Bureau of Standards; and one more from the U.S. Bureau of Mines (<http://trail.gwla.org/>). Maliaca Oxnam wrote about this large-scale digitization effort in her article titled “Collaboration and the Power of Partnership in Science-Engineering Libraries” (2010). The TRAIL project is an example of the type of collaboration of which librarians need to be keenly aware. Oxnam describes the initiative and the resulting resource not only by emphasizing the collaborative nature of the project but also by giving the rationale for the project and then detailing some of the work that went into making the initiative a viable resource. Oxnam explained the importance of the TRAIL project’s content:

Technical reports communicate information for technical development throughout industry and research institutions; thus, contributing to the continued development and growth of science, engineering, and

technology. These technical reports have been distributed in print or microform through federal agencies, the Government Printing Office (GPO), or the National Technical Information Service [NTIS]. (p. 254).

In addition to its focus on partnerships among libraries and government entities, Oxnam's article provides awareness of a valuable resource—the TRAIL project—for collection development in the sci-tech areas, especially engineering.

### **COLLECTION DEVELOPMENT AT LSU**

Collection development at LSU Libraries is aligned to support the mission of the university. This is accomplished through the acquisition and management of the Libraries' entire materials collections in both print and non-print formats needed to sustain current research and teaching. The collection development process includes the formulation of policy and procedures, budget allocation, needs assessment, selection, collection maintenance and evaluation, and resource sharing. With the understanding that no library can supply materials to satisfy all of the needs of its users, LSU Libraries encourages cooperative collection development agreements with other libraries. For its part, the Libraries seek to identify collections that are or could be outstanding in the region and support them with available funds (LSU Libraries, n.d.).

Selection of materials is an ongoing process that can be affected by curriculum modifications, the availability of newly published or out-of-print material, and perceived quality or appropriateness of material. Additionally, selection is sometimes affected by the reputation of the author or publisher, by the price or relative cost to obtain the item, or by physical format of the item. There are also occasions when aesthetic considerations, genre or presentation, or accompanying features might influence the

selectivity of the material. The LSU Libraries, like many libraries, leave room for consideration of the strength or inadequacy of the present collection, the anticipated demand or lack of demand for a particular item, or the lasting value of the item to the collection. The policy at LSU Libraries has also been recently updated to indicate that preferential consideration should be given to materials that are available in electronic format when both print and electronic access is offered. Electronic formats are generally plentiful among engineering and technical selection choices and preferred over print because of their general portability, convenient and extended accessibility, and relative ease of maintenance (see later section on e-books for more detail). Duplicates are not normally added unless heavier-than-normal usage suggests consideration for additional copies.

### **Subject Liaison Program**

All librarians are fundamentally concerned with the organization of materials over which they exercise stewardship responsibility. LSU expects and allows its librarians to exert professional control and authority over library materials, specifically monographs. This control and authority is exercised by subject liaison librarians whose job duties include the discovery, selection, and retention of monographs pertinent to their subject areas. In addition, performing deselection, or weeding, on the basis of related criteria that consider relevancy, currency and appropriateness helps to sustain the collection for usefulness and vibrancy. Other regular liaison librarian activities that contribute to a fundamental understanding of these elements of discovery, selection, and retention include public service duties such as working shifts at the main reference desk, engaging in formal information literacy instruction, and assisting individual students and

faculty with in-depth research. Thus, a liaison's typical work flow performing this connected set of activities both in the sphere of collection development and in public services, assures results that support teaching and research and are directly responsive to the needs of the user community.

As applied specifically to the College of Engineering, collection development and management integrates the efforts of expert individuals and collaboratively accumulated information to acquire, organize, and make available the best resources for teaching and research in that discipline. To this end, the engineering librarian (the subject liaison for the College of Engineering) performs the inter-connected functions of outreach, collaboration, and collection building.

At LSU Libraries, collection development and liaison duties are intertwined. For example, collection development for monographs involves liaisons directly; each subject liaison is responsible for ordering monographic materials pertinent to his or her assigned discipline. Collection development for serials and databases involves liaisons more peripherally; liaisons have input but no direct purchasing power. This input is generated from liaison communication with subject faculty, so it can be said that liaisons are involved in serials/databases acquisitions decisions via their roles as communicators but not as purchasers. In this way, control over the maintenance of each subject collection is kept local—liaisons function as the conduit between the instructors in the disciplines and the library.

The actual funds for purchasing materials—monographic or serial—originate from at least two sources: the state budget for higher education and donors. Tracking and allocating funds is the responsibility of the Head of Collection Development and the

Collection Development Coordinator. Processes involve balancing the amount of funds available with the need for growth in a specific discipline's collection. As with any budgetary scenario, there is never enough money to fill every need, so compromises are struck after multiple options are considered.

The procedures by which monographs are selected for the Libraries by its various subject liaisons include using a designated book vendor, YBP Library Services, for the majority of the ordering. Subject liaisons have accounts set up in YBP's online ordering system and can execute searches, save and manipulate results, and eventually select final purchases from the results. After the liaisons confirm their chosen titles, Acquisitions Department staff members complete the transactions by verifying and editing, if necessary, the selection choices according to available funds and other factors and then forwarding the orders on to YBP.

Reporting and approval plan management is also available through YBP's online system. Targeting materials relevant to the engineering collection is easily accomplished by entering the call number ranges of the materials desired and setting up an alert system whereby email notification is received when new books are available. Since this system is global, publications in a variety of languages and by a variety of publishers can selectively be identified, combined, or excluded. Selection criteria can also be specified according to cost, available format, subject, relevance, and even according to perceived aspect or content level (professional, practical, clinical, etc.).

This system works well because it can involve everyone connected with the selection process (liaisons, collection development coordinator, and acquisitions manager) and notes or annotations can be added to help advise or recommend

alternate actions. Liaisons are encouraged to review published information on faculty research interests and faculty publishing records to determine topic or subject areas in which to collect. Occasionally, faculty members make specific requests for books or materials that may directly or especially support their needs. The library collection development policy and selection practice support such urgent requests and accommodates them when and where practicable.

Collection development duties do not end with the purchasing of materials. Communication between liaisons and their faculty must be ongoing, allowing liaisons to spot trends in faculty interests. Liaisons are encouraged to develop relationships with their faculty so that faculty members are aware that their research and teaching needs are being considered by the library when materials are purchased.

### **The College Of Engineering at LSU**

Established with the beginning of the university in 1860, the College of Engineering has long been a distinct academic unit of the university with a clearly established mission to provide students with a solid formal education (Frost & Nelson, 1995). The departments of the college have changed over time, but the main components of civil, chemical, electrical, and mechanical engineering have always existed. Considerations that include practical, political, and social issues contributed to the existence, from time to time, of several special programs and disciplines such as sugar engineering, aerospace and aeronautical engineering, and automobile engineering. Programs in agricultural, petroleum, nuclear, and biomedical engineering came into existence to support and address specific economic concerns and many of these programs still exist today. Currently, the LSU College of Engineering comprises

seven departments: Biological & Agricultural Engineering, Chemical Engineering, Civil & Environmental Engineering, Construction Management & Industrial Engineering, Electrical & Computer Engineering, Mechanical Engineering, and Petroleum Engineering (LSU College of Engineering, n.d. a). These programs lead to bachelors, masters, and/or doctorate degrees with some degrees offered in combination with other disciplines such as agriculture, medicine, biology, and physics. In a typical graduating year, more than 600 students are enrolled in the College of Engineering. The 2011 graduating class included 360 Bachelor of Science degrees, 50 Master of Science degrees, and 15 Doctor of Philosophy degrees ("2011 Spring Commencement," 2011).

The College of Engineering also controls and manages ten research centers and institutes: the Advanced Computational Solid Mechanics Laboratory, the Center for Geoinformatics, the Center for Rotating Machinery, the Center for Bio-modular Microsystems, the Center for Turbine Innovation and Research, the Hazardous Substance Research Center, the Louisiana Transportation Research Center, the Louisiana Water Resources Research Institution, the Energy Frontier Research Center, and The Gulf Coast Research Center for Evacuation and Transportation (LSU College of Engineering, n.d. b).

### **Selection of Engineering Materials**

Engineering, in general, is increasingly represented in many disciplines and tends to easily and frequently connect across disciplines. Being the applied technology aspect of scientific exploration and discovery, engineering interdisciplinarity can be found in emerging discussions of sustainability, biomedicine, informatics, and green design. The study of any one discipline might start in one defined area and easily

migrate to involve various aspects of other disciplines according to associated effects, interests, and concerns. For example, current interest in information security finds simultaneous applicability in computer science, information systems science, and business.

During the recent tragedy associated with the offshore gulf oil spill, several campus disciplines worked together (and continue to collaborate) in studying this single problem with respect to effects on coastal habitats, fish and sea life development and sustainability, air and water quality degradation, and commercial business ventures. These research projects involved the disciplines in the School of the Coast and Environment, Departments of Biological Sciences, Chemistry, Physics & Astronomy, Geology & Geophysics, and Departments of Agricultural, Petroleum, Mechanical, and Electrical Engineering. The LSU Libraries endeavors to respond to these particular research challenges by encouraging librarians to attend all on-campus forums to help them keep abreast of discussions and to learn about specific cross-disciplinary initiatives. Librarians with specific liaison responsibility in one discipline often share information with other liaisons and closely follow developments that suggest where new research initiatives might begin. From a policy standpoint, the LSU Libraries is committed to supporting research, which includes established and known research as well as research developed through interdisciplinary developments.

While interdisciplinary efforts are acknowledged and encouraged, LSU Libraries requires that its librarians communicate first and foremost with their specific assigned disciplines. For Engineering, this effort at connecting means that a primary imperative of the liaison for the College of Engineering is to meet with the dean of the College of

Engineering at least once a year near the beginning of the fall semester. Typically, the dean invites the library liaison to a meeting of the department heads where formal and direct introductions can be made. Some faculty members are not otherwise aware of the existence of a library liaison, but most are pleased to be able to influence the selection of library materials that can support their respective courses, programs, and research needs. This interaction is a unique opportunity to establish a mutually supportive relationship and a continuing collaborative partnership that can benefit both the Libraries and the College of Engineering.

### **Monographs**

During normal financial operations, budget allocations are made to each liaison. Liaisons consult the collection development policy to review criteria for material selection and encumber funds with careful judgment and consideration. In a typical budget year, approximately \$25,000.00 may be allocated to support purchases for engineering-related monographs. It is no secret that most technical books are high-priced, and thus this budget may not be as generous as it may appear. According to Lynden (2010), in the 2009 "College Book Price Index," the costs of engineering texts were \$102.62 per title (p.1433). Nevertheless, the engineering librarian is usually able to select appropriate and relevant materials that support the mission of the university. Specifically, this is accomplished by first becoming familiar with the programs and courses offered in the college of engineering; second, by reviewing the research and scholarly interests of the engineering professors; and third, by gaining familiarity with the existing library engineering collection. The engineering librarian is then able to make selections of new materials that match up with current teaching needs and with ongoing

research requirements. Additionally, new material can update or expand the current collection or strengthen the depth of the collection where necessary. Budgetary limitations can be avoided or the effects minimized by purchasing paper-bound materials instead of cloth; updating some titles in non-sequential editions; and prioritizing concern according to those titles that circulate most frequently. It is also useful for the engineering librarian to work collaboratively with other liaisons in related disciplines such as mathematics, chemistry, physics, and architecture to avoid duplication of titles or titles that closely relate across disciplines. The LSU Libraries' Collection Development Coordinator typically holds some funds in reserve so that identifiable big-ticket items (monographs costing more than \$500) can be separately purchased without severely impacting the budget normally allocated for each selector. The Collection Development Coordinator also retains some additional and special funds to help address book replacements categorized as missing, lost, damaged, or destroyed.

Electronic materials are increasingly more available and more popular with users. Electronic books are specifically targeted and preferred over print issues of the same title. The LSU Libraries' dedicated suppliers of electronic format materials include Knovel Technical Engineering Reference Information, Wiley Interscience Online Library, SpringerLink Online Engineering e-books and electronic Journals, and Safari Books Online (further detail included in the More on E-books section). These digital collections are especially relevant and useful resources for students in engineering because they typically contain textbooks (which the LSU Libraries' policy excludes from direct purchase), are up-to-date and universally accessible through the library-provided

interface, and are downloadable in popular portable formats including support for electronic reader and mobile smartphone devices.

### **Annual Subscription & Package Purchases**

Collection development activities by liaisons include primarily and most comprehensively monographs, but liaisons also influence the purchase of serials through periodic advisement from faculty. As has been noted elsewhere in this chapter, collection development duties of liaisons at LSU do not include the actual ordering of journals or databases. These materials are ordered by the Collection Development Coordinator with approval from the Head of Collection Development and with input from the liaisons. As in most large academic libraries, package subscriptions for journals and databases are the norm. These packages are often discipline-based and LSU Libraries holds annual subscriptions to at least three “big deal” publisher packages in support of engineering curriculum and research. Big deal packages are large bundles of electronic journals for which libraries are charged a flat fee. The previously mentioned Wiley Interscience and SpringerLink are two big deal packages that LSU Libraries has access to through the ESIG (NSF EPSCoR Science Information Group) consortium:

ESIG is a consortium of academic libraries from over 25 states participating in the National Science Foundation’s Experimental Program to Stimulate Competitive Research (EPSCoR). The mission of EPSCoR is to assist the National Science Foundation in strengthening science and engineering research and education throughout all regions and institutions in the United States. (Hill, 2011).

The libraries in the ESIG consortium have access to Wiley titles in each other's collections. Because of the long-term relationship between the ESIG consortium, Springer, and LSU Libraries, the LSU Libraries has access to all of the Springer periodicals and receives all of their e-books, including forthcoming titles. The third big deal package is with the publisher Elsevier, and is a long-standing purchase LSU Libraries handles on its own. The original purchase consisted of a core set of print titles which, over time, was switched in format to electronic (now available through Science Direct). Since the LSU Libraries has maintained a formal and long-standing relationship with Elsevier, a discount on the Elsevier product Science Direct Freedom Collection was negotiated.

The LSU Libraries also subscribes through Elsevier to the database Referex Engineering, a collection of e-books focused on reference works in engineering. Referex Engineering is sorted into three main collections: electronics & electrical; chemical, petrochemical & process; and materials & mechanical which are then categorized by subjects, such as materials science or pipeline technology. Referex Engineering is accessed through the Engineering Village 2 platform along with Compendex and Inspec Archive. Compendex is the core bibliographic database in the field of engineering. Compendex covers all engineering disciplines and has over 120 years of abstracts from engineering journals and conference proceedings. The Inspec Archive focuses more on indexing electrical and control engineering periodicals as well as computer science. Engineering Village 2 provides the ability to search all three databases (Referex, Compendex, Inspec) on one platform, and the LSU Libraries links to the full-text of articles (when available) for immediate access.

Another database pertinent to engineering and technical literature is the IEEE Xplore Digital Library. IEEE (Institute of Electrical and Electronics Engineers) is a professional society that also serves as a publisher of scientific literature. LSU Libraries has access to all of the IEEE content, including their journals, conference proceedings, and standards. This access is provided because of a consortium agreement between IEEE and LOUIS, the statewide consortium of which LSU Libraries is a part.

A very specific, and yet integral, database for the COE is OnePetro. Since LSU is one of the few universities offering a bachelor's degree in petroleum engineering, the LSU Libraries supports the university by offering access to such an industry specific database. The Society of Petroleum Engineers (SPE) operates OnePetro; however, the content reflects several organizations or societies within the oil and gas industry (e.g., American Rock Mechanics Association and The Society of Underwater Technology, etc.). The content is robust and relates to oil and gas exploration and production.

### **More on E-books**

As previously stated, the LSU Libraries endeavors to support purchases of e-books, particularly in the sciences, in preference to print materials. With respect to selecting for engineering, the engineering liaison uses several methods to make sure that relevant e-books are available in the collection to support research and teaching. These include: setting up automatic notifications (through the online service provided by YBP, the primary book vendor for the LSU Libraries) based on selected criteria to be received weekly; consulting vendor websites and catalogs; specialized searching of the YBP acquisitions management service database; and arranging special vendor presentations on site as well as at conferences. Several major publishers offer e-book

packages that consist of selected technology titles; such configurations are convenient and save both time and effort. The LSU Libraries' collection now holds an increasingly significant number of e-book titles from publishers such as Springer, Elsevier, Wiley, Knovel, EBSCOhost, and IEEE. Additionally, the LSU Libraries has taken advantage of an opportunity to add specialized content through science and engineering libraries such as the Association of Computing Machinery's ACM Digital Library, the Synthesis Digital Library and Computer Science from Morgan & Claypool Publishers, and the ICE (Institution of Civil Engineers) Virtual Library.

The engineering liaison also selects books for the LSU Libraries collection that are represented by the specialized on-demand technology publisher, Safari Books Online. The LSU Libraries has purchased a specific number of e-book "slots" such that old books are removed to make way for new titles anytime on an as-needed basis. The LSU Libraries maintains a customized collection of e-book titles covering computers and computer programming, mathematics, science and technology, digital media, professional development, and business management. Titles in the Safari Books Online custom collection are added to the library's catalog database so that they can conveniently be identified and found. More than twenty publishers are represented through Safari Books Online and most books are popularly received since they typically cover the latest technologies, are easy to read and access, and are presented in a clear, jargon-free format.

In an effort to get more closely attuned to selecting materials that actually are preferred by library users, the LSU Libraries has recently instituted patron-driven acquisition (PDA) methodology. Initially made available to disciplines in the sciences,

PDA is anticipated to have particular relevance to engineering because many technical books are presently published only in electronic format in the areas of computers, applied technology, and mathematics. In actual implementation of PDA, the viewing habits of library users will be tracked to monitor which titles they select and view. Based on a threshold, when a certain number of selections is surpassed, an automatic acquisitions order will be triggered for submission. Currently, only titles that are available in electronic format are eligible for the PDA service. This service has only recently been announced to librarians and no such similar broad announcement is planned to the campus community because it is hoped that selections will closely match actual interest rather than be generated through spurious or deliberate selection activity.

### **Collaborations**

The LSU Libraries maintains a number of collaborations that serve to assist in building and enhancing the collection and to broaden the scope of engineering resources available to the LSU campus and community. For example, the Department of Petroleum Engineering funds the annual subscription to the database OnePetro while the LSU Libraries provides access through its online catalog. In a similar partnership, the College of Engineering established the AAPG (American Association of Petroleum Geologists) Foundation which provides permanent funding for the AAPG Datapages, a database of documents and materials relevant to petroleum geologists. Access to ASTM (American Society for Testing and Materials) standards is provided through a partnership with the Louisiana Transportation Research Center, affording walk-in access to current ASTM standards as well as to the Knovel Transportation Engineering Collection. These partnerships are representative examples of ways in which the

Libraries' collection is extended, enhanced, and enriched through deliberate efforts to better serve the academic community and meet the educational mission.

### **LSU Serials Project**

In 2009, in anticipation of budget cuts, LSU Libraries undertook a project that was designed to capture advisory information from faculty regarding journals in the collection. This effort was a conceptually planned project designed to provide reliable data that could be used to help support the decision making process of collection development. An associated objective was to rationally reduce current expenditures through the identification of journal candidates for cancellation (non-essential titles). Additionally, it was assumed that the funds released through journal cancellations would allow for the acquisition of new journal titles identified through the survey (essential titles). Each library liaison was tasked with delivering the survey instrument to the faculty members in his or her respective departments. The survey instrument consisted of an Excel spreadsheet which provided fields in which faculty could identify journals by title, publisher, and International Standard Serial Number (ISSN). Each faculty member was asked to list all journal titles he or she used on a regular basis and to indicate which were considered to be essential to research or teaching. The faculty were encouraged to list titles of journals to which they thought the library should subscribe (whether or not there was a current library subscription) and to provide journal recommendations in accordance with their best estimation of the value of the journal to their current research and teaching needs. This process was designed to allow the faculty to have full freedom to decide which journals were important to them in connection with current research and/or teaching activities. Each respondent was asked to rank each recommended journal on a scale of 1 to 5, with 1 being the highest priority category, and 5, the lowest

rank. It was anticipated that multiple titles might share the same ranking, which was allowable since the collective tabulation would consider the relative ranking associated with each journal title. This ranking scale allowed for tallying scores for each journal so that the level of importance for each could be easily and quickly determined.

The survey instrument was provided in two ways: online with a link provided to email recipients, and in print through an Excel spreadsheet delivered as an email attachment file. The survey period was established at approximately 30 days (February 9 to March 12, an actual period of 33 days), and library liaisons were encouraged to follow up with periodic and final reminder notifications. Responses were received mainly through email with most people responding with their own email attachments of completed Excel spreadsheets. Relatively few faculty members opted to respond using the online form which delivered their responses directly into a database. The respective liaisons reviewed the responses for clarity and completeness and edited them for correctness (of publication name, publisher, and ISSN) and format consistency. The recommendations received were also sorted, carefully screened for duplications (from the same faculty member), and compiled in a database. In some cases faculty members included recommendations for journals that they knew were not currently in the collection but that they thought were good for reference, research, teaching, and academic interest.

A general review of the responses showed that some journals were selected by more than one faculty member in more than one department and, therefore, could be considered as highly essential. All journals could be subsequently listed according to their perceived value and also weighted according to their associated cost. The end

result was that the collection could be viewed according to a value that was determined by the faculty for whom the collection is intended to support. Moreover, the relative cost to the library's budget could be quickly determined because the most essential journals could be covered in the budget at the expense of the journals that were least essential as determined by the users. This serials review project turned out to be very useful with regard to determining relative value of the journals in the library's collection, and it was a very worthwhile way to involve faculty in the process of budget optimization. This engagement and interaction is a good example of a way in which libraries can reach out to other campus entities to help provide ownership and acceptance of collection development decisions.

## **CONCLUSION**

The LSU Libraries has gone to great lengths to establish and build a library collection that is much more than physical materials. The collection of the LSU Libraries is intended to be a dynamic and continuously developing resource that is able to meet present and future university mission requirements. In this way, the library fully plans for and embraces change while actively working to maintain efficiency and effectiveness.

The library is typically a centralized focus of academic activity on a university campus and is essential for the achievement of academic success in education, knowledge discovery, and scholarly research. Within the library, collection development is a major function and librarians lend professional expertise to help establish, develop, maintain, and grow a collection that supports current and ongoing needs. The LSU Libraries treats collection development as a very important responsibility and in its service to the College of Engineering, collection development is a key element of

support for the university's mission. The relationship between the LSU Libraries and the LSU College of Engineering is one of respectful partnership in service to students, faculty, and staff at all levels of the university and the associated scholarly community.

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## **KEY TERMS**

Applied sciences – Sciences that are ultimately practical in scope, function, and purpose rather than entirely theoretical and/or academic. An example of an applied science is engineering (see below).

College of Engineering – The LSU College of Engineering currently comprises seven departments in biological & agricultural engineering, chemical engineering, civil & environmental engineering, construction management and industrial engineering, electrical and computer engineering, mechanical engineering, and petroleum engineering.

Document delivery service - A service established to provide (locate, retrieve, and deliver) documents on demand. This service is typically established at a set cost according to factors such as the size of the document and the method (speed and format) of delivery.

Engineering – The practical and applied focus of science and technology, engineering seeks to put into practice the theoretical and experimental aspects of science in the conversion to a useful and applied purpose.

Interdisciplinary programs – Particularly with respect to engineering, many programs cooperate, integrate, and interact to support the needs of education and research. For example, to properly prepare for advanced studies or special application of new

concepts, traditional programs in biology and medicine could merge to support the program of biomedicine or biomedical engineering.

Patron driven acquisition (PDA) –The term used to describe a method of acquiring books (usually e-books) for a library’s collection. Also called demand driven acquisition (DDA) because the process involves an action initiated by the library user rather than a librarian. PDA is designed to afford the library user immediate access to content and, after a prescribed number of views is reached, the book is automatically purchased for the library’s permanent collection.

Pure sciences – Sciences which involve the conducting of controlled experiments that lead to the ultimate discovery of laws. No practical applications are researched.

Sci-tech collection(s) – Terminology used to describe library collections comprised of materials used in the teaching of and research in both *pure and applied sciences*.

Reciprocal borrowing agreements – Agreements among members of a consortium or organized body of institutions established to specify how materials are to be shared between a lender and a borrower. Lending and borrowing typically occur in the same way with any member participant regardless of the direction of the transaction.

Serials review – A planned periodic examination of the LSU Libraries collection with specific focus on serials. Current policy establishes that the faculty be polled, at least

every four years, by survey to determine which specific journal titles are needed to support research and/or teaching.