

EVALUATION OF LIBRARY RESOURCES

ESSENTIAL TO THE SUPPORT OF:

HEALTHCARE SYSTEMS ENGINEERING GRADUATE CERTIFICATE

J.B. SPEED SCHOOL OF ENGINEERING

Haoyong Lan

Engineering & Data Librarian

Dean Robert E. Fox, Jr.

University Libraries

February 4, 2022

BACKGROUND

University of Louisville (UofL) Libraries are comprised of:

- 1) Ekstrom Library serving humanities, social sciences, life sciences, business, engineering, physical sciences, and technology,
- 2) Kornhauser Health Sciences Library,
- 3) Anderson Music Library,
- 4) Bridwell Art Library,
- 5) Brandeis School of Law Library,
- 6) University Archives and Special Collections.

UofL's library system supports the teaching and research needs of more than 22,000 students and more than 7,000 faculty and staff. UofL belongs to the Association of Research Libraries (ARL), an organization of 126 North American library systems affiliated with large, comprehensive research institutions; the State-Assisted Academic Library Council of Kentucky (SAALCK); and the Kentuckiana Metroversity, a consortium of Louisville area libraries.

Ekstrom Library provides access to the resources most relevant to the proposed Healthcare Systems Engineering Graduate Certificate. The proposed certificate is in the Speed School of Engineering - Industrial Engineering. The program consists of 9-credit hours of required courses primarily focusing on healthcare engineering, quality of care, patient safety, health IT, clinician support, healthcare analytics, and data visualization. Three new courses will be developed for the program. The program is fully online. This means that online library collections and services will be especially important for this program.

This report provides a summary of library resources that support teaching and research in subjects pertinent to the proposed Healthcare Systems Engineering Graduate Certificate, as well as the libraries' support of distance learning programs.

COLLECTIONS

Books

According to WorldCat, UofL has hundreds of eBooks and print books related to healthcare engineering, quality of care, patient safety, health IT, clinician support, healthcare analytics, data visualization, and related topics. The majority of the library's holdings in relevant subject areas to this certificate were published more than five years ago. Here is a breakdown of the library's holdings categorized by selected general subject search terms:

Subject Search Term	Total # of Books	Total # of eBooks	Books published in last 5 years
Healthcare Engineering	262	217	51
Quality of Care	3,706	1,424	210
Patient Safety	751	317	76
Health IT	71,459	29,230	3,746
Clinician Support	83	23	8

Healthcare Analytics	57	53	8
Data Visualization	510	290	61

Periodicals

UofL currently has online full-text access to a broad range of scholarly journals that focus on topics related to healthcare engineering, quality of care, patient safety, health IT, clinician support, healthcare analytics, and data visualization:

Journal	Online Full-Text Holdings
<i>Journal of Healthcare Engineering</i>	2010 – present
<i>European Heart Journal-Quality of Care and Clinical Outcomes</i>	2015 – present
<i>Journal of Patient Safety</i>	2005 – present
<i>Joint Commission Journal on Quality and Patient Safety</i>	2005 – present
<i>Health Information Science and Systems</i>	2013 – present
<i>Health Information Management Journal</i>	1987 – present
<i>Healthcare Analytics</i>	2021 – present

Online Databases

UofL Libraries subscribes to a large number of online databases that offer indexes, abstracts, and full-text access to relevant periodicals in addition to thousands of conference proceedings, book chapters, and patents. All databases are accessible on and off campus. Key databases for the proposed Healthcare Systems Engineering Graduate Certificate program include the following:

- PubMed
- ACM Digital Library
- IEEE Xplore
- CompendexWeb
- INSPEC
- MathSciNet
- ScienceDirect
- EBSCO Web
- ProQuest Direct
- SAGE Research Methods
- Web of Science

Other Resources

There are [online research guides](#) in Engineering and Technology created by university librarians which can be used to support the proposed Healthcare Systems Engineering Graduate Certificate program. There are also a [data management research guide](#) and a research guide for [finding data and statistics](#).

Graduate students may also benefit from the [Productive Researcher Portal](#), which provides tools and strategies for comprehensive literature searches and other resources for advanced researchers. Ekstrom Library also provides regular training in [EndNote](#) citation management software.

SERVICES

Research Assistance and Instruction

Each library within the University of Louisville Libraries offers instruction programs designed to meet the needs of its researchers. Ekstrom Library's information literacy program provides both face-to-face and online research instruction tailored to specific courses and assignments. The library's [Research DIY](#) website offers additional online support for students, with brief video tutorials, infographics, and other instructional materials. Ekstrom Library has a librarian assigned to the Speed School of Engineering to provide specialized assistance with research, collections, and information literacy instruction. Ekstrom Library provides research assistance through in-person consultations, e-mail, telephone, and online chat.

Interlibrary Loan and Document Delivery

Books and periodicals not held by the UofL Libraries are identified through online databases and WorldCat, an online union catalog with more than 32 million records describing materials owned by libraries around the world. Faculty, staff, and students can request materials through UofL's [Interlibrary Loan \(ILL\)](#) service. Articles and chapters are sent to patrons via email; books obtained through ILL are available for patrons to pick up at Ekstrom Library or are mailed to distance students living in the United States. Full book service is not available to international locations.

Document delivery services allow patrons to request library-owned articles or book chapters less than 50 pages in length, within copyright fair use guidelines, to be scanned and delivered to them electronically. Ekstrom Library has a [Distance Learning Services Specialist](#) who provides online learners with access to print and electronic resources.

CONCLUSION

UofL Libraries already supports the related subject areas in the proposed Healthcare Systems Engineering Graduate Certificate. The University of Louisville Speed School of Engineering does not anticipate a need for any new library books, journals, databases, or other services to support the new program. Current library collection can meet the needs of faculty and graduate students in the proposed program.