RESEARCH GUIDE
FOR
MATHEMATICS AND COMPUTER SCIENCE
SPRING, 2017

NOTE: For an overview of the research process, see EMPOWER at http://library.wichita.edu/empower/.

General Tips for Searching E-resources
(Note: The following techniques usually work with online catalogs, periodical databases, reference databases, search engines, and other standard library resources)

 To search for exact phrases, enclose them within double quotation marks:
  o “south carolina”
  o “absolute value”

 To search for multiple endings of words, use an asterisk/star in place of the variant endings. This technique is known as “truncation.”
  o symmetr* (retrieves “symmetry,” “symmetries,” “symmetrical,” etc.)
  o educat* (retrieves “educate,” “educated,” “education,” “educational,” etc.)

 To find more than one term, use the “and” command. This command narrows your search.
  o “chaos theory” and control*
  o NOTE: Certain resources (e.g., Google) assume an “and” between multiple search terms, so you don’t need to include one there.

 To find synonymous / equally acceptable terms, use the “or” command (and enclose the phrase within parentheses):
  o (“butterfly effect” or chaos)

• Reference/Background Materials
  o Useful electronic reference sources are listed on the “Mathematics” page, as well as the “Computer Science” page within the library’s “E-Resources (arranged by academic discipline)” section. Credo and Oxford Reference, both of which comprise hundreds of reference books on all subjects, are especially useful.
  o Relevant print books are located here in the library’s Reference Area:
    ▪ Mathematics: 510s
    ▪ Computer Science: 000s

• Books
  o To find books in Converse’s Mickel Library, use the Mickel Library Catalog:
    ▪ “Subject” searches: use when searching for a single concept and you know the correct Library of Congress subject heading, e.g.,
      • graph theory
      • harmonic oscillators
    ▪ “Keyword” searches: use when combining multiple concepts and/or you don’t know the correct subject heading, e.g.,
      • “damped oscillations”
“set theory” and “intuitionistic mathematics”

To find eBooks, use the eBook Collection from EBSCOhost and eBrary eBooks on the Ebooks page on our library’s web site.

To find books in college/university libraries in South Carolina, use PASCAL.

To find books in libraries throughout the U.S., use WorldCat.

Articles in Scholarly Journals

General/Multidisciplinary Databases

- **Academic Search Complete** – indexes over 12k periodicals (mostly academic journals, but some popular magazines as well); over 8k of these titles include the complete text of the articles:
  - Sample search:
    - “quantile regression” and “dummy variables”

- **General Science Full Text** – indexes around 400 core scientific journals and provides the full text of articles from about 100 of these.
  - Sample search:
    - “random walks”

- **Applied Science and Technology Full Text** – indexes over 800 journals in the applied sciences; provides the complete text of over 200 of these journals.
  - Sample search:
    - “real numbers” and fractals

Subject-Specific Databases

- **Computer Source** – indexes over 400 journals in computer science and provides the full text of over 200 of these titles.
  - Sample search:
    - “neural networks” and “data analysis”

Note: Additional databases can be found on the pages for “Mathematics” and “Computer Science” in the “E-Resources (arranged by academic discipline)” section.

Finding Out If Our Library Owns a Particular Periodical

- To locate the full text of an article for which you’ve found only a citation, you’ll need to check two places, both of which will be linked here.
  - Clicking the “E-Periodicals” link brings up CASE, a database that lists the periodicals the library owns in electronic format.
    - Key in the title (or at least the first word or two of the title) in the box to the right of “Title Begins With.”
  - Clicking the “Print/Microform Periodicals” link brings up the Mickel Library Catalog, which lists all of the periodicals the library owns in either paper or microform formats.
    - Search by Journal Title (not article title!).

- If you have any questions about finding an article, please contact one of the librarians for assistance.
Using InterLibrary Loan

Once you’ve determined that our library doesn’t own an article or book, you have a couple of options for obtaining materials from other libraries.

- **For books**, first check out PASCAL Delivers, a statewide system that allows you to borrow books from other S.C. college and university libraries; these books arrive in just a few days!

- **For books not available through PASCAL and all other materials (such as journal articles)**, select “Interlibrary Loan” and log in. Please make sure you select the correct form (e.g., Journal Article Request, Book Request) and fill it out as completely as you can. Articles generally arrive within 2-7 business days, while books usually take 5-14 business days.