

Team LEAF: Resource Page

INTRODUCTION

Welcome, Team LEAF! This is a resource page for you as you begin your literature review. Here you'll find links to websites, databases and the UMD catalog. You'll also get some help here on conducting research, including information on plagiarism, citation, critical reading, and source selection. This page was created as a list of resources for you to use anytime, anywhere. But this page shouldn't and won't replace help from your advisers, mentors, or librarians!

YOUR LIBRARIANS

Your librarians are **Nedelina Tchangalova** (nedelina@umd.edu) and **Bob Kackley** (rkackley@umd.edu). Our office is located in the [Engineering and Physical Sciences Library](#) (EPSL) <http://www.lib.umd.edu/ENGINE>, which is in the Mathematics Building (084).

BEFORE YOU BEGIN

Below are some resources to help you conduct smart and efficient research.

What exactly is a Literature Review?

A literature review describes, summarizes and analyzes previously published literature in a field. What you want to do is demonstrate your knowledge and understanding of what the "conversation" about this topic is, identify gaps in the literature, present research pertinent to your ideas and how your research fits in with, changes, elaborates on, etc., the present conversation.

More in-depth guidelines:

- University of Toronto Writing Centre (<http://www.utoronto.ca/writing/litrev.html>)
- UC, Santa Cruz (<http://library.ucsc.edu/ref/howto/literaturereview.html>)

Research and Library Skills

http://www.lib.umd.edu/UES/library_guides_research.html

Lists helpful resources relating to library research skills. Includes information on library services, how to search for books and articles, library maps and virtual tours, and other basic information.

Research Methods

<http://www.managementhelp.org/research/research.htm>

This information on basic business research methods is in part adapted from the book *Field Guide to Nonprofit Program Design, Marketing and Evaluation* by Carter McNamara. Other resources on this topic include:

- *Introduction to Research* by Tyrus Hillway
LOCATION: McKeldin Library Stacks
CALL NUMBER: Q180.A1H5

- *The Research Methods Knowledge Base* by William M. K. Trochim
LOCATION: McKeldin Library Stacks
CALL NUMBER: Q180.55.M4T76

Searching

Searching in catalogs and databases is not like using basic search engines like Google; instead they rely upon **Boolean terms** that create relationships and concepts between words. The most basic Boolean operators are AND, NOT, and OR.

- Use AND to include only those results that have BOTH words: cats AND kittens
- Use OR to include results that have EITHER BOTH or ONE of the words: cats OR kittens
- Use NOT to exclude specific words. The document won't contain those words: kittens NOT cats

Another trick used in searching is **truncation**. Truncation is shortening a word to its root with a special symbol (e.g., *, \$, ?) to return all the variants of that word in your search results. Example: Solar* will return "solar," "solarimeter," "solarism," "solarium," "solarization," and "solarize."

Evaluating Sources and Source Types

There are a lot of sources out there, and wading through them all will take time. But there are ways to quickly assess which you should spend your time on.

First, there are differences in the types of sources.

- Primary, Secondary and Tertiary Sources
(<http://www.lib.umd.edu/guides/primary-sources.html>)
- Scholarly, Popular and Trade Journals (Periodicals)
(<http://www.lib.umd.edu/guides/journals.html>)
 - Quick-Reference Periodicals Comparison Chart
(http://www.lib.umd.edu/guides/journals_chart.html)

Once you've identified the types of sources, you can evaluate their quality.

- Evaluating Books and Periodicals
(http://www.lib.umd.edu/guides/evaluate_sources.html)
- Evaluating Websites
(<http://www.lib.umd.edu/guides/evaluate.html>)

Critical Reading

Reading the literature critically is the key to your review of it. To become part of the scholarly community, you need to evaluate what others have done before you, both positively and negatively. You judge the soundness of the argument or study.

One of the first steps toward reading critically is dissecting the article. Define its parts (thesis, claims, methodology, conclusions, for example) and ascertain the context (e.g., the audience, the conversation it is participating in). Then you can evaluate how well the parts relate to one another, how well the authors make the case, and finally, how the argument fits into the literature.

Here are some tips on critical reading:

- University of Toronto Writing Centre (<http://www.utoronto.ca/writing/critrdg.html>)
- Youngstown State University Writing Center (<http://iws.ohiolink.edu/~sg-ysu/critread.html>)
- Purdue Online Writing Lab (Good for almost anything you need about writing!) <http://owl.english.purdue.edu/workshops/hypertext/ResearchW/critical.html>

Plagiarism

Plagiarism is the purposeful or accidental lifting of others' intellectual work. The scary thing about plagiarism is that you can do it without even meaning to. But good note-taking, proper use of others' work through good writing habits like accurate summarizing, paraphrasing and direct quotation, and accurate citation of others' work will help you avoid it.

See UM Libraries' **Plagiarism Resources for Students**

(http://www.lib.umd.edu/UES/plag_stud_what.html) for what plagiarism is and is not; tips on avoiding plagiarism; integrating and citing your sources; consequences of plagiarism and academic dishonesty; and the **University's Policy on Academic Integrity** (http://www.lib.umd.edu/UES/plag_stud_upol.html).

Note-taking

Good note-taking is the first step to avoiding plagiarism. Read carefully and make sure that what you write down is accurate. There are various methods of note-taking, but there are several options for bibliographic management software (BMS) listed at <http://www.lib.umd.edu/PUBSERV/citations/index.html>, including **Zotero** (<http://www.zotero.org/>) and **EndNote** (<http://www.endnoteweb.com/>), available through **ISI Web of Science** (<http://researchport.umd.edu/databases&id=UMD04150>). Some of the features of BMS include:

- Export citations from many of our databases;
- Add a button to your browser that will let you save websites to your working bibliography;
- Keep track of your citations in one place.

Be careful: the bibliographies created aren't always correct. See below for resources on citation styles.

Citation styles

Citing your work correctly is essential in crediting your sources and avoiding plagiarism. Here is a **quick guide** (http://www.chicagomanualofstyle.org/tools_citationguide.html) of the Chicago style manual. Note that this quick guide won't substitute for using an actual Chicago manual, which is in its 15th edition and is available at the Libraries:

- Chicago Manual of Style, 15th edition (<http://catalog.umd.edu/docno=003042797>)

One citation style you may already be familiar with is APA. Make sure you use a recent edition of any style manual. APA manuals are available at the Libraries:

- Publication manual of the American Psychological Association (<http://catalog.umd.edu/docno=003454419>)

- Concise rules of APA style
(<http://catalog.umd.edu/docno=003215104>)
- APA style guide to electronic references
(<http://catalog.umd.edu/docno=003481120>)

Quick electronic resource for different citation styles:
http://www.lib.umd.edu/guides/style_manuals.html#how

RESOURCES

Databases

UMD Databases can be accessed via **Research Port** (<http://researchport.umd.edu/>) any time. Databases can offer citations, abstracts, and/or full-text of articles. Below is a partial list of databases you may find helpful.

- Academic Search Premier
- BIOSIS Previews
- Biotechnology and Bioengineering Abstracts (Biotechnology Research Abstracts is part of this, though listed separately in Research Port)
- Compendex
- Environmental Engineering Abstracts
- IEEE Xplore
- Pollution Abstracts
- SciFinder Scholar
- Web of Science

Books

You can use the **USMAI catalog** (<http://catalog.umd.edu/>) to find books, journals, and other types of materials at UMD and its **consortium libraries** (<http://www.itd.umd.edu/>). Check out the tips on **searching** above before searching the catalog.

Journals

You can use the UMD catalog to find journals, and you can also use Research Port to search for electronic journals. You can find a compilation of some of EPSSL's science and technology journals broken down by subject area at http://www.lib.umd.edu/ENGIN/JOURNALS/current_journals.html. Remember, these are only partial lists of journals.

Patents

In the course of your project, you may want to check out some patents on devices or processes that have been patented or are in the process of being granted a patent. We suggest that for a real patent search, contact our Patents librarian at EPSSL, **Jim Miller** (jmiller2@umd.edu). But if you want to do a little looking around yourself, check out:

- United States Patent and Trademark Office (USPTO) (recommended first)
<http://www.uspto.gov/main/patents.htm>
- European Patent Office
<http://ep.espacenet.com/>
- [Depatisnet](http://depatisnet) (German Patent Office)
<http://depatisnet.dpma.de/>

There's also **Google Patents** (<http://google.com/patents>) but you can't do a full or comprehensive patent search there. You can also look at our **Patents and Trademarks Guide** (<http://www.lib.umd.edu/guides/patents.html>) .

Technical Reports

Technical reports are published government-sponsored research, and you might come across them doing research on energy. Finding tech reports can be tricky, since some are online (a lot of the Department of Energy's are) while some are available at EPSL on microfiche. You can sometimes find what's available at UM by searching the catalog. You can also read abstracts of tech reports using the www.NTIS.gov database. EPSL has a guide on **Technical Reports** (<http://www.lib.umd.edu/guides/techrpts.html>) that will give you some ideas on how to find them. If you need help finding tech reports, ask us!

Helpful Subject Guides

UMD Libraries offer a variety of subject guides, and these can give you an idea of some key resources in a given area. You might find helpful some of the subject guides listed at http://www.lib.umd.edu/UES/library_guides_subject.html or <http://www.lib.umd.edu/ENGIN/guides.html> .

Web Resources

There's a lot of junk on the Web, so be careful in choosing resources. Some good sites you might want to check are government sites, which offer searchable databases. Some that be of use to include:

- U.S. Department of Energy (DOE), Energy Citations Database (<http://www.osti.gov/energycitations/>)
- U.S. Department of Energy (DOE), Information Bridge (<http://www.osti.gov/bridge/>)
- U.S. National Technical Information Services (<http://www.ntis.gov/products/ntisdb.aspx>)

Federated search engines (search engines that search multiple databases and web sites with one search box):

- Australian Research Online
<http://research.nla.gov.au/>
- Electronic Environmental Resources Library (eERL)
<http://www.eerl.org>
- Energy Files
<http://www.osti.gov/energyfiles/>
- E-Print Network
<http://www.osti.gov/eprints/>
- Google Scholar
<http://scholar.google.com/>
- Science.gov
<http://science.gov/>
- Scienceaccelerator.gov

<http://www.scienceaccelerator.gov/>

- Scienceresearch.com
<http://www.scienceresearch.com/>
- Scitopia.org
<http://www.scitopia.org/>
- Worldwidescience.org
<http://worldwidescience.org/>

LIBRARY SERVICES

What if I Want Something We Don't Have?

You can use the database **WorldCat** (<http://researchport.umd.edu/databases&id=UMD01534>) to locate books and journals beyond UM holdings. WorldCat contains records for materials found in research libraries worldwide.

Most items can be obtained through Interlibrary Loan (ILL) <http://www.lib.umd.edu/ILL/Welcome.html>, which means that libraries share items. If you find a book or a journal article that UMD doesn't have, request it via ILL. Books can take up to 14 days; articles about a week. Most articles now will be scanned and sent to you via PDF.

Printing, Photocopying, Checking out Materials

The Libraries' **How Do I? page** (<http://www.lib.umd.edu/how.html>) gives you information on these services the Libraries provide, including **printing in the Libraries**, and how you can **pay** for prints and photocopies. Information on **borrowing materials** can be found at EPSL's circulation page (<http://www.lib.umd.edu/ENGIN/circ.html>).

Contacting Library Staff

There are a lot of ways of getting in touch with library staff. You can do so via Live Chat with EPSL librarians on Meebo; live reference chat through AskUsNow!, email, phone or making an appointment. All of these services can be found on **EPSL's contact page** (<http://www.lib.umd.edu/ENGIN/contact.html>) .

ALERTS

You Mean I Have to Do This Again??

Research in a field does not stop just because you stop looking for it. So it wouldn't hurt to continue doing brief checks into your topic periodically. Some databases let you set up email alerts when new items with your keywords or subject terms have been added.

FINALLY...

Don't Panic!

Start early, keep at it, and ask for help when you need it.