Library session for MATH 4400
(History of Mathematics)

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Introduction

I’m William Denton <wdenton@yorku.ca>, the librarian for mathematics and statistics. I’m very happy to help if you have any questions while working on this paper or run into any problems, especially with accessing any online sources or getting useful results out of them. Email me for easy help or to book an appointment for more in-depth help.

The quickest place to get help with formatting citations and bibliographies is at the reference desk in the Steacie Library. Whoever is there will be glad to help. https://researchguides.library.yorku.ca/mathematics

Academic integrity, citing and writing

SPARK is a web site made to help students with written assignments. It has lots of help and practical advice. It’s a great resource for everything about writing papers and doing research in general (not just about mathematics). Everything’s broken down into small easy pieces and there are videos and checklists.

Academic integrity

Academic integrity is extremely important. From What is Academic Integrity?:

“Academic integrity” refers to a set of conventions that scholars follow in their work, and which generates credibility, trust, and respect within the academic community. As a student, earning a university degree in a fair and ethical way also involves following these conventions.

See also the academic integrity checklist.

Citing and quoting

From SPARK’s Using and Citing Sources:
In everyday conversation, we refer informally to what friends, family, and colleagues have said. Similarly, in academic writing, we also make use of the observations and ideas of others, but we cite these sources formally and in stylized ways. Using and citing sources appropriately:

- identifies the academic conversation in which you are participating and clarifies what other authors are participating
- enables your readers to locate your sources and to learn more about the topic from them
- allows your reader to establish the reliability of the information you present
- helps justify your choice of topic and methodological approach
- acknowledges the originator of a particular term, concept, or theory, and the intellectual property of others
- can strengthen your work by allowing you to affiliate yourself with ideas and opinions with which you may agree, and distance yourself from those with which you disagree
- helps you to avoid committing plagiarism

About quoting other works: there is paraphrasing (putting things in your own words) and there is direct quoting; both need to be cited; and if quoting directly, put brief quotes in quotation marks but indent longer quotes in their own paragraphs (as above). See SPARK’s Practicing Integrity.

Research and writing

SPARK has tips on how to do research, take notes, read with a view to writing, and structure a paper. These are all under Exploring, for example Essay Structure. Writing is under Pulling it Together, for example Writing Strategies.

Also, the Academic Writing Guide has some very useful links in it. It explains about annotated bibliographies and research essays. Helpful links there. See also the books.

The Bethune Writing Centre (BC 206) has free help. Best to make an appointment but if they’re not busy they’ll take a drop-in. They can help you structure your paper, proofread it when you’re done, and more.

Citations and bibliographies

SPARK’s citation and bibliographies page is a good place to start, and our footnotes and bibliographies guide has lots of links to good sources about how to format citations and bibliographies. SPARK’s page on annotated bibliographies will be useful.

As to citation styles, Prof. Gibson doesn’t care what style you use as long as you are consistent and accurate. If you already know APA (American Psychology
Association), MLA (Modern Languages Association), CSE (Council of Science Editors) or Chicago style, use whichever you’re most comfortable with. There are lots of examples and help available online about them all. Citation Machine is quick and easy, but Zotero and Mendeley are better long-term (see below).

Zotero and Mendeley are great tools for managing your research and generating citations and bibliographies. Both integrate nicely with Word and Google Docs, and will do your citations for you. They save a lot of time and could be very useful in your groups.

I prefer Zotero (it’s free and open source; our guide). Mendeley is used widely in the sciences (no charge but proprietary; our guide).

Search strategies and finding resources

Where do you search now?
The library provides access to books (of course) and to many online sources that have huge amounts of content that isn’t available on the open web or findable through a regular Google search.

Easiest place to find related sources is in the bibliography of whatever is in your hand! When you have one book or article that’s useful, look at its bibliography to get ideas about where to look next. Then look at their bibliographies. However, you’ll also have to search.

Types of sources

Popular and scholarly. Primary, secondary and tertiary.

Dictionaries and encyclopedias

Why useful: brief introduction to something; getting up to speed quickly on it; citations are useful.

Wikipedia is often a fine source—but while it’s a great place to start, it’s no place to stop.

Wolfram MathWorld is very useful and has good bibliographies. The material there is written and edited by experts.

Print is still wonderful! The Princeton Companion to Mathematics and The Oxford Handbook of the History of Mathematics are great.

Books

On the main floor of Steacie. Good for full treatments of a subject, biographies, histories, popular books, also more detailed like collection of chapters on a subject.

QA 3: original sources; QA 21–36: history, biography, historical works.

The catalogue has books and journals and a lot else, but not articles. Example search: evariste galois. Basic keyword searches are a good start; can also search by
Title Keyword or Subject Heading. Look at results. In a result, the “bibliographic record” has a lot of detail in it. Is there a table of contents? If so, very useful to skim. Subject Headings take you to other books on just this exact subject. (This is a “controlled vocabulary.”)

Journals

Good for the very specific; also good for overviews and reviews. Can go into catalogue to find known journal, but remember, no articles there

Best source is MathSciNet, which can be got at in two places (same content, different interfaces): MathSciNet at Ebsco, MathSciNet at AMS. (Example: Do a search: juggling. Can restrict to a time frame, or not. Look at results: show sorting, narrowing. Results list: go through a result, explain the elements. Look at paper: abstract, subject headings, citations (from references). Find It at York. SFX screen.)

JSTOR: great for philosophy and history. Has Philosophical Transactions of the Royal Society back to founding in 1665. Search examples: kepler conjecture, cantor AND (infinite OR transfinite OR countable)

Google Scholar (gauss heptadecagon works better there than in other places). Find It @ York will appear if used on campus or through the library’s proxy. Great tool—but don’t rely on it exclusively.

Web of Science for tracking citations back and forth in time.

Search strategies

Breaking down a topic. ANDing and ORing using Boolean.

Don’t get discouraged if you don’t find something great right away. It may take a little time. Keep at it, try some different searches, try broadening out the subject you’re looking for if it’s too narrow, and try looking for things that are similar but a little bit different.
Brief examples

Annotated bibliography (MLA style)


This is the only biography of H.S.M. Coxeter, the Toronto geometer (1907–2003). It covers both his mathematics, to which he devoted his life (the mathematics is described for the lay person in some detail but without rigour; this is a book for a popular but mathematically interested audience) and his personal life, which got much less of his time. A few more sentences explaining why the book will be useful for what you’re writing. You will need to have given the book a good look, though you don’t need to have read it all.

Citing with MLA in-text citations

This is not a direct quote so no quotation is needed:

Coxeter first met artist M.C. Escher in Amsterdam in 1954 (Roberts 212).

This does need quotes:

Coxeter was called “the greatest classical geometer of the twentieth century” (Roberts 6).

In Works Cited: