Library Resources for MECH 548 – Cellular Materials in Natural and Engineered Structures

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http://www.flickr.com/photos/akeg/241874419/
What do you want to learn?

- **Where to search** - “How to find additional resources at the McGill library so I do not have to rely on internet searches for all my information.”

- **How to search** - “How to do more efficient searches. For example, using the advanced searches with the various databases.”

- **Using EndNote** – “How to use citation management software.”

- **Citing** - “More details on what exactly needs to be cited and where to cite in a paragraph.”
Outline

- Where to search
  - MECH 548 course guide
  - Research databases
  - Library catalogue
  - Colombo interlibrary loan

- How to search
  - Building your search strategy
  - Finding review articles
  - Advanced features

- Using EndNote citation management software

- Citing
Where to search?

- Largest number of respondents start with Wikipedia

- Wikipedia
- Course textbook
- Google Scholar
- Online library guides
- Online encyclopedias and handbooks
- Library catalogue
Where to search?

- COLOMBO
- OvidSPMEDLINE
- Compendex on Engineering Village
- Google Scholar
- Wikipedia
- ScienceDirect
- Scopus
- PubMed
- McGill Library
- ISI Web of Knowledge
Connecting to resources is EZ!
Finding background information

- MECH 548 course guide
  www.mcgill.ca/library/find/courses.guides/mech548

  - Starting point for your research

  - Provides links to dictionaries and encyclopedias, list of research databases for locating journal articles and other useful information
Databases relevant to the topics covered in this course

- Google Scholar
- Scopus
- Materials Research...
- Web of Science
- IEEE Xplore
- Compendex
- PubMed
Using research tools

- Research databases
  - Scopus
    http://mcgill.worldcat.org/oclc/60462585
  - Web of Science
    http://mcgill.worldcat.org/oclc/37853368
  - Materials Research Database
    http://mcgill.worldcat.org/oclc/703841600
  - Google Scholar
    http://scholar.google.com/

- Using COLOMBO to obtain journal articles, conference proceedings and books that are not available at McGill
Specialized sources of information

- Conference papers
  Current research reports presented at conferences/meetings.

- Theses
  Document of research, often submitted as requirement to earn an advanced degree in academic study.

- Patents
  “A patent is an exclusive right granted for an invention, which is a product or a process that provides, in general, a new way of doing something, or offers a new technical solution to a problem.”[www.wipo.int/patentscope/en/patents_faq.html#patent](http://www.wipo.int/patentscope/en/patents_faq.html#patent)
How to search

**CONCEPT 1:** Scaffold*

**CONCEPT 2:** Cellular

**CONCEPT 3:** Material* OR microstructur* OR structur*

**CONCEPT 3:** Lattice*
Web of Science and Scopus

- Finding most highly cited articles
  - Sort results by “Times cited”
- Finding related articles
  - View “References”
  - View “Related documents based on references”
- Creating alerts
  - Set alert for saved searches
  - Set “Citation alert”
Review articles:

“Review articles are an attempt by one or more writers to sum up the current state of the research on a particular topic.”

www.lib.utexas.edu/lsl/help/modules/review.html

- Finding review articles:
  - In Web of Science, Scopus and Materials Research Database, limit document type to: Review
Locate the complete text of references

- Click on the “Find it” button or Full-text link

- Button or link not there? Search Library Catalogue (Note: Search for the journal name when trying to locate a journal article.)

- Not available @ McGill? Request it through Colombo (Note: Go to library website and click on “Interlibrary loan”)

- For conference publications, search Google Scholar to check whether the article is free online
Managing your Citations

- Do you use citation management software?

  - Use EndNote 44%
  - Use BibTex 22%
  - Nothing 33%
What is EndNote?

- Import references from library catalogue and databases
- Store, organize, and format your references
- Create bibliographies with Microsoft Word
Setting up the full text option in EndNote

- Enter open URL path:
  
  http://mcgill.on.worldcat.org/atoztitles/link

- When off campus, authenticate with:
  
  http://proxy.library.mcgill.ca/login?url=

- Under **Edit** (For Mac users, under **EndNote**), choose **Preferences... > Find Full Text**
Why cite correctly?

- It is the proper format for assignments
- Gives credit where credit is due
- Increases the credibility of your work
  - Shows you have research to support your arguments
  - Shows your knowledge of the material
  - Shows your ability to analyze previous research
  - Allows your reader to delve deeper into the topic by consulting your references
When to cite

- “You use another person's ideas, opinions, or theories.
- You use facts, statistics, graphics, drawings, music, etc., or any other type of information that does not comprise common knowledge.
- You use quotations from another person's spoken or written word.
- You paraphrase another person's spoken or written word.”

www.indiana.edu/~istd/overview.html
Example #1 – What is wrong with the student’s work?

<table>
<thead>
<tr>
<th>Original</th>
<th>Student’s work</th>
</tr>
</thead>
<tbody>
<tr>
<td>In contrast to thermal and electrical properties, the influence of the density and the architecture of the cellular metal on the mechanical properties is much stronger and more complex.</td>
<td>The influence of the density and the architecture of the cellular metal on the mechanical properties is much stronger and more complex than the thermal and electrical properties.</td>
</tr>
</tbody>
</table>
Example #1 – Direct copying without citing

<table>
<thead>
<tr>
<th>Original</th>
<th>Student’s work</th>
<th>Corrected</th>
</tr>
</thead>
</table>
| In contrast to thermal and electrical properties, the influence of the density and the architecture of the cellular metal on the mechanical properties is much stronger and more complex. | **The influence of the density and the architecture of the cellular metal on the mechanical properties is much stronger and more complex** than the thermal and electrical properties. | “In contrast to thermal and electrical properties, the influence of the density and the architecture of the cellular metal on the mechanical properties is much stronger and more complex.” (Degischer 2002, 179)  
Degischer, Hans-Peter, and Brigitte Kriszt. 2002.  
*Handbook of cellular metals: production, processing, applications.* Weinheim: Wiley-VCH. |
Example #2 – What is wrong with the student’s work?

<table>
<thead>
<tr>
<th>Original</th>
<th>Student’s work</th>
</tr>
</thead>
<tbody>
<tr>
<td>There are many properties that depend on the density (or porosity) not only linearly, but also on the geometrical structure or the microarchitecture of the cellular structure: the stiffness, the mechanical strength, the thermal and electrical conductivity as well as acoustic properties, for example.</td>
<td>Many properties depend on the density (or porosity) of the cellular structure: the stiffness, the mechanical strength, the thermal and electrical conductivity as well as acoustic properties, for example. (Degischer 2002, 179) Degischer, Hans-Peter, and Brigitte Kriszt. 2002. <em>Handbook of cellular metals: production, processing, applications</em>. Weinheim: Wiley-VCH.</td>
</tr>
</tbody>
</table>
Example #2 – Incorrect paraphrasing

<table>
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<th>Student’s work</th>
<th>Corrected</th>
</tr>
</thead>
</table>
| There are **many properties that depend on the density (or porosity)** not only linearly, but also on the geometrical structure or the microarchitecture of the cellular structure: the stiffness, the mechanical strength, the thermal and electrical conductivity as well as acoustic properties, for example.  
(Degischer 2002, 179)рогицер, Hans-Peter, and Brigitte Kriszt. 2002. *Handbook of cellular metals: production, processing, applications.* Weinheim: Wiley-VCH. | **Many properties depend on the density (or porosity) of the cellular structure: the mechanical strength, the thermal and electrical conductivity, the stiffness as well as acoustic properties, for example.** (Degischer 2002, 179) | According to Degischer, stiffness and mechanical strength are two of the many properties that depend on the cellular structure’s density.  
General advice

- Start the research early; there are constraints on how quickly some material will arrive.
- Use a balanced set of sources (journal articles, internet resources, books, etc.).
- Use materials that are at the appropriate level (think of your reader as being one of your peers in Mechanical Engineering).
- Cite properly; when in doubt, cite it!
questions?

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