DESIGN CHALLENGE
LIBRARY RESEARCH

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Ask Us! Getting Help from the Library

■ Chat

■ Schedule Research Consultation: wpi.libcal.com/appointments/

■ Librarian Walk-In Hours:
  - (Rooms 202A-C):
    - Mon-Fri 8AM-5PM
    - Saturday 1-5PM
Library Class Resources

Library Course Guide:

http://libguides.wpi.edu/ece2799
Research is a process

1. Research Question
2. Gather Background Information
3. Conduct Literature Search
4. Manage Information Gathered
5. Synthesize Information Gathered
Research is iterative

- Develop Keyword List
- Select Search Platforms
- Evaluate Search Results
- Revise/Refine Search
Keywords are...well key

- Successful searching comes down to figuring out the “right” keywords – which can differ depending on where you are searching.

- Keep a list of all potential keywords, including similar/related terms.

- Keep notes on which terms worked well, in what combination and which search engine/database.
Not all information can be found in one place

■ Rule of thumb: use at least 3 search tools
  - Google Scholar
  - WPI Library Search (library homepage)
  - Research databases

■ Look for multiple types of information to get different perspectives on your topic.
  - Technical handbooks
  - Journal articles
  - Product websites
  - Patents
Background Info: Technical Handbooks

- Use to find technical information like equations, substance information, measurements, procedures and protocols

How Find?
- WPI Library Search: Add the word “handbook” to your search terms.
- Database ➔ By Type ➔ Technical Handbooks ➔ Select either Knovel or CRC NetBase ➔ Searches take you directly to the relevant chapter of the handbook.
Google Well – Using Your Time Effectively

- Domain searching: site: .gov, .org, .uk

- Add “association” with basic topic search phrase to find any trade/professional organizations on your topic

- Copyright free image search with Advance Image Search

- Google Scholar – click Cited link
  - use “FullTextFinder@WPI” to get access
Library Research Databases

- Library databases = searchable collections of published works, mostly scholarly, but can include non-scholarly sources
- Provides citation information (author, title, publisher, date, etc.)
- Often but not always provides full-text access to sources → Look for Fulltext Finder link
- Many are discipline specific – determine which to use based on what perspective looking for (engineering, business, etc)
Market Research via Business Databases

- For Research, Trade Literature, & News:
  - Business Source Premier
  - ABI/INFORM Complete
  - General Business File ASAP

- For Statistics and Company/Industry Information:
  - Statista
  - Hoover’s Company Profiles
Why Search Patents?

- Most patent information is not found anywhere else
- Patents contain a wealth of specific technical detail
- Understand product design features & specifications
- Track innovations
- Competitive market analysis
- Compare your own ideas to existing inventions
Patent Criteria

To be patentable, the following three criteria must be met:

1. **Novelty**: unique & new, must not have been described before
2. **Utility**: invention is useful and functions according to intended purpose
3. **Nonobviousness**: does just build on prior invention as a logical extension
When Searching/Reading Patents

- **Assignee**: Owner of the patent (not always the inventor)
- **Claims**: What makes the patent novel
- **Description**: detailed description of invention and prior art (related earlier products, concepts, or inventions)
- **Drawings**: show the main components of the inventions
- Other important features for patent searching: cited/citing patents, legal status, classification codes, related documents
Other Useful Guides:

- Electrical Engineering Databases
  [http://libguides.wpi.edu/databases/bysubject/ece](http://libguides.wpi.edu/databases/bysubject/ece)

- Business Databases at Gordon Library:
  [http://libguides.wpi.edu/businessmanagement](http://libguides.wpi.edu/businessmanagement)

- Citations: [https://libguides.wpi.edu/citingsources](https://libguides.wpi.edu/citingsources)

- Patents: [http://libguides.wpi.edu/patent](http://libguides.wpi.edu/patent)