

3.093 Literature Review II Assignment

Due December 5

Literature Survey:
Materials Research

Your task for this assignment is to use all the knowledge you have gained from this course to conduct a scholarly literature review on a topic dealing with materials research. You may choose from the suggested topics, or pick one of your own (must be approved by Prof. Sadoway). You must choose a topic you have NOT ALREADY SELECTED in a previous assignment.

- Find at least 10 citations from scholarly sources on your topic. 5 must be scholarly journal articles (2 journal articles must be published before 1990); 1 must be a book or conference proceedings
- Format your citations in **ACS style** (Hayden Library - Science Reference QD8.5.A25 2006)
- Summarize or annotate each citation
- Keep a **NARRATIVE** research log of your search process. Tell the story of what you did to complete this assignment. Keep all the required elements of the research log:
 - The name(s) of the database(s), web site(s), book(s), or other source(s) you used to find information for the assignment
 - Describe why you chose those sources for your information search. Try to be specific and justify your choices.
 - Describe your search process (the steps you took, the keywords you searched, how you went about searching).
 - Explain the results you got from each source. Did you find what the information you expected to find? Were your results scholarly/academic in nature? Which results did you select, and why did you choose them?
 - The amount of time you spent searching each source.
 - Describe your emotional response to the experience. Were you frustrated, confused, confident, worried about time, etc.?

Suggested Topics:

- Use of DNA in solving crime
- Medical uses of ceramics
- Materials for information storage
- Metals for construction (e.g. bridges, tunnels)
- Alternative fuels
- Use of lasers in biomedical applications
- Lab on a chip technologies
- Buckminster fullerenes
- Organic LEDs
- Green chemistry
- Global warming and the ozone layer (chemical perspective)
- Zinc alloys and their uses
- GaAs and its uses
- Uses of KI in medicine

Sample citation and summary:

Dvash, T.; Ben-Yosef, D.; Eiges, R., Human embryonic stem cells as a powerful tool for studying human embryogenesis. *Pediatr Res* **2006**, 60, (2), 111-7.

This is an article that describes how human embryonic stem cells are derived and characterized. The authors explain how stem cells are used for studying human development and why they are so vital in research. The article is written in an explanatory manner and gives the reader a solid background for further research on this issue. Several articles cited by this author may also be useful to read.