ENGAGING THE LIBERAL ARTS 100
Transitions 1
Synthetic Biology: Is Believing Seeing?

Hacker, Diana. A Writer's Reference. 8th ed. Boston: Bedford/St. Martin's, 2015.
(hereafter listed as Hacker)

What is your assignment:
Hacker: R1-b, pp. 359-362
- read assignment carefully! Is this a long paper, short review, annotated bibliography?

Jot down search terms:
- are there alternative terms, variant words or names, synonyms?
- ex. Synthetic biology or biomimicry
- ex. Bioengineering
- ex. Developmental biology
- ex. Technological innovation
- ex. Bioethics
- ex. add Ethical aspects to any of the above terms

Background reading:
Hacker: R1-d, pp. 363-367
definition of a reference book: a book intended to be consulted for information on specific matters rather than read from beginning to end.
- specialized encyclopedias concentrate on specific subjects and are an excellent starting point.
- *Bonus tip*: these can also be used in your bibliography. General encyclopedias, such *Encyclopedia Americana* or *Encyclopaedia Britannica* cannot be used.

- print reference encyclopedias in Kelly Library OPAC

  Bioethics   REF QH 332 .E52 2014
  Bioethics, Health Care, and the Law   REF R 725.5 .H44 1999
  Discoveries in Modern Science   REF Q 121 .D57 2015
  Encyclopedia of Philosophy   REF B 51 .E3 2006
  Encyclopedia of Religion   REF BL 31 .E46 2005
  International Encyclopedia of Social & Behavioral Sciences   REF H 41 .I58 2001

- e-reference sources on Kelly Library's A-Z Databases:

  Credo Reference (Hundreds of reference books in a broad range of subjects
  Gale Virtual Reference Library (Database of encyclopedias, almanacs, and specialized reference sources for multidisciplinary research
  Oxford Reference Online (provides language and subject reference works from one of the world's biggest reference publishers into a single cross-searchable resource)

Finding material in the library catalog (OPAC)

   Hacker: R1-d, pp. 363-367
- the OPAC is a shared catalog for the Holston Associated Libraries (HAL), of which Emory & Henry College is a member. It lists the holdings for all of our books, DVDs, CDs, journals and newspapers, and electronic resources
- can be searched by author, title, subject and keyword.
- subject searching can be less useful since it requires the use of formalized terms
- keyword searching, which searches words within fields in bibliographic records, can return an overwhelming number of results, vague matches, or mismatches. Fine-tune keyword searching by adding more words or adding limits.
- can use * to include variations in endings in one search:

   appalach* will retrieve Appalachia, Appalachian, Appalachians
   environment* will retrieve environmental, environmentalism, environments

- books from our circulating collection

   Biopunk: Solving Biotech's Biggest Problems in Kitchens and Garages TP 248.23 .W65 2011
   Perilous Knowledge: The Human Genome Project and Its Implications   QH 445.3 .W55 1993
   Regenesis: How Synthetic Biology will Reinvent Nature and Ourselves   QH 438.7 .C486 2014
   Recombinant DNA: Genes and Genomes   QH 442 .R37 2007
   The Second Creation: Dolly and the Age of Biological Control   QH 442.2 .W545 2000
   Stem Cell Now: From the Experiment that Shook the World to the New Politics of Life QH 588
      .S83 S35 2006

Finding journal articles:

   Hacker: R1-c, pp. 336-340
- search online journal databases in the A-Z Databases
- some are full text (Yeah!)
- some are indexed only, check E-Journals by Title to find out if an article is full text in a database the library subscribes to, or if print holdings are listed.

   Why search for journal articles?
   - journal articles are an excellent source of scholarly information
   - journal articles are reviewed by experts before publishing so are more reliable than most webpages
   - journal articles are more timely than books, especially in the sciences and may be the only place where some research is presented

   Scholarly vs. popular
   Hacker: R2-b, p.350-352 (good checklist)
- scholarly articles (also known as refereed or peer-reviewed articles) are written by experts and go into more depth than material prepared for a general audience.
- Skidmore College's library website has a checklist to help you decide (http://libguides.skidmore.edu/content.php?pid=405243&sid=3316923)

   Journal of Religious Ethics, Journal of Social Issues, Science & Society, and *Science, Technology & Human Values* are scholarly journals
   Newsweek, Science, Scientific American, and *Time* are popular as they are too general

- *Research hint*: when you find an article that looks relevant check for subject headings or keywords that are applied to the citation. These can be used to focus your search for appropriate information.

- selected article databases from [A-Z Databases](#)

Academic Search Complete (full-text documents, indexing, and abstracts and more on topics ranging from astronomy to zoology)
CINAHL with Full Text (full text coverage of top nursing and health literature including biomedicine)
JSTOR (extensive online journal collection covering many scholarly topics)
Nature (International weekly journal of science)
Religion and Philosophy Collection (extensive coverage of world religions, biblical study, political philosophy, moral philosophy, and the history of philosophy through more than 300 full text journals)
SciFinder Scholar (bibliographic and reference database from Chemical Abstracts Service. Additional login registration is required)

Using Interlibrary Loan (ILL) to borrow books and articles:
- the Library cannot possibly provide access to all the resources that students need
- fill in the online form available on the [Library webpage](#) to borrow materials from other libraries
- from WorldCat Discovery, click on the Request Button, open Illiad from library page: required information will be imported automatically
- can take 5-10 days to receive requests so start researching early!

Finding good internet sites:
Hacker: R2-e, pp. 341-345
- most scholarly resources are not available for free, especially in the sciences
- scholarly resources cost money because they contain evaluated information
- there are no website police! Anyone can put up a website and make it look official
- learn how to evaluate websites under [Research Tips](#) on library webpage

quick check for evaluating web resources
- determine if the address is official or personal
- who is responsible for the content
- is the content personal opinion or documented research
- how current is the site, and when last updated

Google is a great search engine
use advanced search to limit searches to particular domains to maximize chances of getting the most creditable information, i.e. .gov, .edu, .org
http://www.google.com/advanced_search?hl=en
Google Books provides free access to full text images of books and some articles
http://books.google.com/
Google Scholar searches specifically for scholarly literature in many formats, concentrating on articles and includes citation links (i.e. who cites whom)
http://scholar.google.com/

- selected high-quality websites, subscription databases, and print resources are collected under [Subject Resources](#) on library webpage

[American Chemical Society Journals](#) (full text articles from several of the major Chemical Society journals and abstracts for many more)
[Science.gov](#) (searches over 60 databases and over 2200 selected websites from 15 federal agencies, offering 200 million pages of authoritative U.S. government science information including research and development results)

Documentation and Plagiarism:
-   know which documentation style you need to use   Hacker: R2, pp. 369-375

    - MLA (Modern Language Association) for English and some humanities
    - APA (American Psychological Association) for psychology and other social sciences
    - CMS (Chicago Manual of Style) for history and some humanities

-   The library has print guides on reserve for all of them. The library's Research Tips page has links to several helpful sites.
-   Plagiarism is a serious academic offense
-   The **E&H Academic Code** clearly states that it is a student's responsibility to give credit to another person's exact words or unique ideas.
-   The **Honor Code** reinforces this concept with the statement that one of its elements is "A commitment to abstain from all forms of cheating and plagiarism."

    quick check for actions that might be seen as plagiarism (from OWL)
    (http://owl.english.purdue.edu/owl/resource/589/01/)
    - buying, stealing, or borrowing a paper
    - hiring someone to write your paper
    - using a source too closely when paraphrasing
    - building on someone's ideas without citation
    - copying from another source without citing (on purpose or by accident)
    - sloppy documentation

    things you don't need to document
    - your own opinion or analysis of an idea
    - facts that are common knowledge, available from multiple sources

Documenting sources correctly is critical to avoiding any appearance of plagiarism
    Hacker: R2, pp. 371-375
    Consider using a bibliographic reference tool, such as Firefox's Zotero, to keep track of all your sources in one place. They have an ap for other Windows browsers as well as the one built into Firefox.

Additional sources for research help:
-   **Writing Center** in MS 233, call x6225 for hours and contact numbers
    - cannot edit your papers, but can give advice about grammar, organization, or documentation
-   **Kelly Library!**
    - open **92.5 hours** a week during the regular semester
    - a reference librarian is available until 9PM Sunday-Thursday and all day Friday and Saturday.
    - can reach us by calling the Circulation Desk at **ext. 6208**
    - email **askalibrarian@ehc.edu**

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