INFORMATION LITERACY IN THE SCIENCES
UNL 206X
Syllabus
Quarter 1 Spring 2009

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Course: UNL 206X: Information Literacy in the Sciences
Day and Time: Wednesday 1:40 – 3:40 p.m. Section # 5931
Location: University Library, B48
Course web page: http://library.albany.edu/usered/unl205
Course blog: http://liblogs.albany.edu/unl206x/

Course description:

This is one-credit, quarter course that fulfills the Information Literacy General Education requirement. It meets one day a week for seven weeks. Each class is two hours long.

The purpose of the course is to acquaint you with the processes of finding, organizing, using, producing, and distributing information in print, electronic and other formats. Various case studies and examples from scientific, technical, and medical literature will be used to achieve this purpose. You will learn about the flow of information in a variety of disciplines, particularly natural sciences, how to be effective at the research process, how to access information in a variety of formats, and how to formulate effective searches on electronic databases and the Internet. You will learn how to evaluate the quality of web-based and print information, and will become familiar with practical, social, and ethical issues relating to information with special emphasis on the role of scientific information in an increasingly technological society.

Relation of Course to Information Literacy Learning Objectives:

Ever-increasing access to information requires researchers to be able to critically assess and evaluate a variety of resources. Commensurate with these skills is the ability to utilize information responsibly and ethically. UNL 205 (206) X, in recognition of the fact that each discipline has its own method of inquiry, prepares students to traverse the information terrain by introducing them to library infrastructure, information architecture, basic research methodologies, and the practical use of reference materials, print and online, for the enhancement of their potential to develop mature research skills.

Course Objectives and Competencies Expected:

Upon completion of this course you should be able to:
1. Identify the effect that technology has had on information production and dissemination.
2. Understand how sci-tech information is created, distributed, and used.
3. Describe a variety of information sources and tools you can use to access these information sources.
4. Develop an effective search strategy for finding information using access tools.
5. Identify and analyze the source, authority, and perspective of information sources.
6. Understand the difference between a research topic and a thesis statement. Be able to turn a topic into a thesis statement.
7. Apply knowledge of the APA (American Psychological Association) style by compiling a bibliography. Know how to write critical annotations.
8. Discuss current issues relating to information policy. Analyze the impact of these policies on information access for individuals and communities.
9. Be able to follow and keep up with science and technology in society.

**Professional Skills:**

*When you leave this class, you will have gained the following skills that will be important in the workplace or in graduate school:*

1. You will know where to look to find the information you need. If you don’t know immediately, you will have strategies to determine where to look.
2. You will know that appropriate format, as well as creator and quality of the information, will affect where you look.
3. You will have effective skills for finding the information you need, without wasting time looking for it.
4. In conjunction with the knowledge you gain in your major, you will be an effective evaluator of the information you find. This will help you with your projects or reports.
5. You will be a good resource for others whose information finding skills are less developed.

These skills will increase your value to employers, as well as your skills when researching job opportunities and preparing for interviews.

**Student Responsibilities:**

Each student is expected to contribute to an environment conducive to the learning of all students. This contribution includes, but is not limited to:

- Respecting the opinions of others
- Being prepared to participate actively
- Taking responsibility for your learning and progress in the course
- Seeking help from the instructor as needed

Students are responsible for knowing and following the policies listed below. Students are also responsible for knowing and following the University policies outlined in the Undergraduate Bulletin ([http://www.albany.edu/undergraduate_bulletin/academic.html](http://www.albany.edu/undergraduate_bulletin/academic.html)).
Because of the structure of the course, you need to attend regularly in order to do well.

Class Policies:
1. It is always the responsibility of the student to know when assignments are due.
2. Assignments are due on time and as such no assignment will be accepted after its due date for a full credit. A printer/computer/e-mail problem is not an acceptable reason for a late submission. Electronic submissions are acceptable only with my discretion. In order to get a full credit for the assignment, it must be submitted IN CLASS on the DUE DATE and must be COMPLETE. You will not get credit for partially completed homework or work turned in late.
3. All assignments must be typed. Do not hand any assignments handwritten on spiral notebook paper.
4. For all assignments you hand in, make a usable backup and bring it to class.
5. Do not plagiarize.
6. Cell phone alarms must be turned off before class begins; the use of computers during class is restricted to instructional activities; food or drinks are not allowed (water is OK).
7. Class attendance is required and as such your grade will be affected severely if any classes are missed. We meet only 7 times in this quarter. As already outlined, students are responsible for all work done in class, so work done in classes you miss cannot be made up. If you know you have to leave class early on any given day for some reason, make arrangement with me in advance to pick up assignments and discuss any arrangements that may need attention.
8. All work in this class must be completed by the last day of the quarter. NO INCOMPLETES will be given.
9. Failure to complete the Final Project (Annotated Bibliography) on time constitutes a failure for the entire course since it is equivalent to a final exam.

Grading and Course Requirements:

35% Weekly citations/annotations, Assignment worksheets, blog postings
25% Completed annotated bibliography
20% In-class discussion/attendance
10% Class presentations
10% Quizzes

Research project

Each week’s assignment contributes to a cumulative project, an annotated bibliography on a topic that you select and that the instructor approves. The parts of the bibliography are due as follows:

Week Two: Your topic.
**Week Four:** Three articles (1 scholarly in print, 1 popular in print and 1 full-text from one of online databases available via University Libraries website). Cite and annotate all three. Photocopy and submit the first page of each.

**Week Five:** One scholarly and one popular web site. Cite and annotate both.

**Week Six:** One primary scholarly article. One secondary source (see below), both cited and annotated due two days prior to the Class 6.

**Week Seven:** Your final project – an annotated bibliography and a presentation outline.

The final annotated bibliography should contain **nine** items in **alphabetical** order:

- A book
- A reference source in book format
- A popular Internet web site
- An authoritative/scholarly Internet web site
- A print article from a popular magazine or newspaper
- A print article from a scholarly journal
- A full-text online article (from an online database related to your topic)
- One primary source (a primary scholarly article)
- One secondary source

Use APA brief style guide sheet passed out in class (also available at http://library.albany.edu/usered/cite/APAw-header.pdf or use the 5th edition of the *Publication Manual of the American Psychological Association* (ReadyRef BF 76.7 P83 2001).

**Blog postings**

We will use blog (short for Web log) http://liblogs.albany.edu/unl206x/ in this class: as a part of your homework assignments and also as a communication tool. Check it often – I will be posting not assignments only, but also copies of handouts and other class materials.

**Final class Presentation**

You will make a 4-5 minute presentation on the last day of class. The presentation is to address the following:

- ✓ The reason you selected your topic
- ✓ A brief summary of what you found
- ✓ Problems you ran into finding information
- ✓ Interesting or unusual information/sources you came across

Effective creativity in your presentation will be rewarded. This might include, but is not limited to, showing key web sites or other visuals or using PowerPoint.

**You will also need to hand in your presentation outline (typed) on the last day of class.**

**Extra credit:** TILT Web-Based Modules (http://tilt1.ulib.albany.edu/):

If you complete all **three** modules of the TILT information literacy tutorial with grades of 80% or higher by class time on March 4, 2009 and e-mail your quiz results to me, I will give you extra
credit toward your final grade. (Note: addition may raise your final course grade, if it is borderline).

Class 1/ January 21

Introduction: students and instructor
Pre-test
Syllabus and course policy discussion
Information literacy and science literacy concepts
Virtual tour of the University Library and Science Library
Minerva/Databases (first peak)
Annotated bibliography/APA Style Guide

Selecting a topic. The list of forbidden topics follows:
1. Stem cell research
2. Marijuana
3. Abortion
4. Steroids
5. Bird flu
6. Depression
7. Climate change
8. Alcoholism
9. Attention Deficit Disorder
10. Tornadoes

Recommended (but not limited to) topics:
1. A scientific theory (proved or not)
2. Chemical elements
3. Topics in medicine with the exception from above.
4. Scientific mistakes
5. An animal or plant species
6. Health issues in the news
7. A biographical research about the scientist who made an extremely important scientific discovery

Homework assignment:
1. Choose a topic related to natural sciences (see above); list three questions you would like to ask about this topic. Think about 4-5 keywords you may use in order to find information on this topic. If you have difficulties deciding on your topic, contact me!
2. Post a comment in our class blog that will include your topic, three questions and 4-5 keywords by Tuesday, January 27, noon (a day before Class 2). Don’t panic if you can’t see your posting right away – I have to approve it first as a blog administrator (helps to prevent spam).
3. Find a book for your topic and bring it to class. The book MUST be from one of the University libraries.

Readings:
1. New York Times Science section (appears every Tuesday).
2. Information Anxiety 2, Chapter 2 (pp.23-52) available from E-Res (course UNL 205X, password 205X).
Class 2/ January 27
News in Science for today
Print and online sources.
Reference Sources in natural sciences
Call numbers for sciences; LCSH classification
Formulating a thesis statement on a topic of your choice (in-class ex.)
Critical annotations
Online reference sources; in-class exercise
Math and Computer Sciences: introduction to various sources in Mathematics and Statistics and Computer Sciences, MathSciNet

Homework assignment:
1. Formulate a thesis statement for your topic.
2. Find, cite and annotate a book and a reference book on a topic of your choice (cannot be online)

Readings:
2. Research Strategies: Finding your way through the information fog by William Badke, text is available online from http://www.acts.twu.ca/lbr/textbook.htm,
   Chapter 2, Databases. (Google search for “research strategies” brings it up as the second record from the top). It is also available from E-res.

Class 3 / February 4
News in Science for today
Periodicals: scholarly journals vs. trade/professional or popular
A scholarly article: how to read?
Tour of the Science Library
Biological Sciences: Sources in biology in various formats. Class exercise/discussion.

Homework assignment:
1. Find, cite and annotate three articles on a topic of your choice. Provide the copy of a first page of each article.
   - Article 1 must be from the print scholarly journal.
   - Article 2 must be from the print popular source, such as magazine, newspaper, trade/professional journal.
   - Article 3 must be from online periodical source such as journal, magazine, or newspaper (Note: it should be found in one of the online databases to which University libraries subscribe such as Medline, INSPEC, Scopus, MathSciNet, etc).

Readings:
2. Science section of the New York Times
Class 4 / February 11

News in Science for today
Web sources: search engines and search directories
Authoritative websites vs. popular websites
Google; Wikipedia; Web 2.0; Class exercise

Homework assignment:
1. Find, cite and annotate two websites on your topic:
   - Website 1 should be authoritative
   - Website 2 should be popular
2. Print out the first page of each web site and attach to your worksheet.

Readings:
1. Science section of the New York Times
2. Article distributed to you in class

No class / February 18/ Winter break

Class 5 / February 25

News in Science for today
Primary/Secondary/Tertiary sources in the sciences.
Dissecting a primary article
Physics and nanosciences: Sources in physics and nanosciences.
Class exercise

Homework assignment:
1. Find, cite and annotate one primary and one secondary source.
   - One primary scholarly article (could be from an online journal)
   - One secondary source (could be in various formats such as a critique of an experiment, a book or an article review in a scholarly publication, or any other material, including a movie, a news report, website, etc.).
2. E-mail it to me as a Word attachment before or on March 2, 2009 (Monday). This way I can get back to you with my comments and suggestions before the Class 6.

Readings:
2. Patent search tutorial from the Penn State University at http://www.libraries.psu.edu/instruction/business/Patents/

Class 6 / March 4
Copyright/plagiarism/academic dishonesty
Digital divide, electronic privacy issues
Open source publications
Patents; in-class exercise
**Chemistry:** Sources: print and online; SciFinder Scholar; in-class exercise

**Homework assignment:**
1. Prepare an outline of your presentation consulting the handout.
2. Prepare an annotated bibliography for submission following the handout guidelines.

**Readings:** Science section of the *New York Times.*

**October 9/ No class: Break**

**Class 7/ March 11**

News in Science for today
Course overview
Post test
Presentations

**Characteristics of all General Education Courses**

1. General Education courses offer introductions to the central topics of disciplines and interdisciplinary fields.
2. General Education courses offer explicit rather than tacit understandings of the procedures, practices, methodology and fundamental assumptions of disciplines and interdisciplinary fields.
3. General Education courses recognize multiple perspectives on the subject matter.
4. General Education courses emphasize active learning in an engaged environment that enables students to be producers as well as consumers of knowledge.
5. General Education courses promote critical inquiry into the assumptions, goals, and methods of various fields of academic study; they aim to develop the interpretive, analytic, and evaluative competencies characteristic of critical thinking.

**Information Literacy General Education Courses**

Information Literacy General Education courses introduce students to various ways in which information is organized and structured and to the process of finding, using, producing, and distributing information in a variety of media formats, including traditional print as well as computer databases. Students acquire experience with resources available on the Internet and learn to evaluate the quality of information, to use information ethically and professionally, and to adjust to rapidly changing technology tools. Student must complete this requirement within the freshman or sophomore year.