University of Kentucky
School of Information Science (SIS)

IS 326: Electronic Information Resources in the Health Professions
Spring 2018

Instructor
Mr. Robert Shapiro
Office: 331 Little Library Building
Phone: (859) 218-2297
Email: shapiro.rm@uky.edu (preferred) and through Canvas Messages
Response time: Within 24 hours during weekdays (expect a delay during weekends and holidays)

Office Hours
Tuesdays and Thursdays: 9:00am – 11:00pm, EST and by appointment
Virtual office hours are available during the regular office hours via Zoom

Course Description:
This course is a survey of electronic information resources for health professionals. Resources include databases and Web resources, but will focus on MEDLINE using the PubMed interface. Discussion of relevant controlled vocabularies, their use in formulating and executing search strategies are addressed. Interfaces to MEDLINE other than PubMed will be explored. The course also includes reference management software, an evidence based health care component, and discussion of systematic reviews. Understanding the process for conducting systematic reviews is critical to understanding how evidence based decision making, broadly, takes place. Conducting rigorous systematic reviews, and understanding that research process is critical to understanding evidence based health care.

Prerequisites:
STA 210 or equivalent.

Student Learning Outcomes:
Upon successful completion of this course, the student will:
1) Describe basic principles involved in developing search strategies to retrieve citations to the biomedical literature;
2) Identify controlled vocabularies and how they are used to index the biomedical literature;
3) Identify tools utilized in health sciences information retrieval;
4) Demonstrate familiarity with reference management software, and be able to construct a reference library;
5) Demonstrate an understanding of evidence based health care techniques and the process for conducting systematic reviews.

Course goals or objectives: This course is designed to provide a broad overview of various health sciences electronic information resources as well as controlled vocabularies used to index the biomedical literature. Ultimately, students will gain the knowledge and skills necessary to
use interfaces to access information in the health sciences in the context of evidenced based health care. Students will gain hands-on experience developing and executing search strategies. Students will gain experience with retrieving literature through traditional databases. Students will also explore the PubMed interface as well as alternative interfaces to MEDLINE. Students will gain exposure to citation management through a variety of reference management software, but will develop proficiency with EndNote. Student’s exposure to evidence based health care and systematic reviews ties together conceptual development such as information retrieval and practical skills such as reference management.

Skills learned in this course will be applicable to the health care setting specifically. More generally, successful completion of this course will allow students to apply what they have learned about this particular information system more broadly to other domains.

Topics to be covered:
1. Health sciences electronic information resources;
2. Controlled vocabularies;
3. Search strategy formulation and execution;
4. Reference management;
5. Evidence based health care.

**Required Materials**

**Required Instructional Technology:**
As this is an online course, students are expected to have regular access to a personal computer (see suggested recommendations at [http://www.uky.edu/ukit/hardwareguide](http://www.uky.edu/ukit/hardwareguide)), a high speed Internet connection, and speakers (or headset) to complete learning activities.

**Required Readings:**
Select journal articles and web sites are indicated for each week in the Course Calendar section of the syllabus.

**Required Text:**

**Supplemental Materials:**
Handouts will be distributed throughout the course of the semester.

MEDLINE/PubMed Resource Guide

**Course Materials:**
The primary readings for this course come from the published journal literature. I have included readings within the Course Calendar on the course syllabus. The majority of the articles are available via the Academic Search Complete database. UK Libraries subscribes to Academic Search Complete.
Access the Libraries web page at http://libraries.uky.edu/. Select Databases among the navigation buttons just above the middle of the page. Enter Academic Search Complete in the Title Search box. Select Academic Search Complete. You should be able to locate the articles indicated in the syllabus by using Author, Title, or combination Author/Title searches.

For those articles available from other sources, I have indicated which resource you may obtain them from. If it is a resource outside those to which UK subscribes, I have included a URL for that resource.

If you have trouble locating an article, please let me know.

We will also be reviewing relevant web sites throughout the semester. I have included URL’s for these in the Course Calendar.

Some additional resources are available in the Course Content area in a folder for their respective week.

Course Format/Structure:
Because this is a Distance Learning course, students are expected to log onto the course at least two times a week to participate in discussion boards, access information and access and review lectures. Each week’s materials may include items like live capture lectures, PowerPoint slides, lecture notes and links to supplemental materials.

Student Evaluation:
Grading Parameters
There will be a series of 6 assignments for the course (including a midterm exam, term paper, and a summary reflection).

Course Assignment Grading

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Class participation</td>
<td>5</td>
<td>5%</td>
</tr>
<tr>
<td>MEDLINE Exercises (5)</td>
<td>45</td>
<td>45%</td>
</tr>
<tr>
<td>Midterm exam</td>
<td>20</td>
<td>20%</td>
</tr>
<tr>
<td>EndNote Library</td>
<td>5</td>
<td>5%</td>
</tr>
<tr>
<td>Final paper</td>
<td>20</td>
<td>20%</td>
</tr>
<tr>
<td>Reflection paper</td>
<td>5</td>
<td>5%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
<td><strong>100%</strong></td>
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Assignment Descriptions:

Class Participation (5 pts)

Students are expected to participate regularly in this course. This means log in into the course a minimum of two times a week, participating in online discussions (a minimum of ten posts with
each worth ½ point over the course of the semester, of at least 100 words in length), completing regular assignments on time. No credit will be given for posts that occur after the week.

MEDLINE Exercises (45 pts; 5 exercises, 9 pts for each exercise)

Throughout the first half of the semester, you will be periodically asked to perform the skills you are reading about. These exercises are meant to give experience actually using the techniques described in your readings or in the PubMed tutorial. At least one example will be provided for each exercise. Specific instructions will be included for each exercise. (SLO 1, 2, 3 & 4)

Midterm (20 pts)

The midterm will evaluate your understanding of the course content up to this point. The midterm will consist of questions that are structured in the same format of the exercises, as well as questions similar to the “Quiz” questions at the end of each section of the PubMed tutorial. It would be in your best interest to take those as practice for the midterm. I will post the midterm (Week 8) and you will have the week to complete it. (Formal due date needed) (SLO 1, 2, 3, & 4)

EndNote Library (5 pts)

This assignment is structured to evaluate how well you understand reference management software, and in particular, EndNote X8. The assignment will include both the construction of an EndNote library as well as a small number of conceptual questions about reference management software. (SLO 4)

Final Paper (20 pts)

In no more than 10 pages, discuss best evidence found in the published literature as it relates to an aspect (e.g., diagnosis, complications, therapy, etc) of a particular disease, condition, or syndrome. Include a review of the relevant literature as well as a detailed description of the disease, condition, or syndrome you selected. Document your search strategy in the paper and how you executed it as well as a list of resources you consulted. Include a justification of the resources you selected (i.e., why do those resources represent best evidence found in the published literature). Your paper should demonstrate the application of concepts covered during the course of the semester. Cite references as appropriate. (SLO 1, 2, 3, 4, & 5)

Reflection Paper (5 pts)

In the assignment, you should reflect upon your information needs and information seeking behavior. In no more than 3 pages, describe how your approach to locating and retrieving
information in an electronic environment has changed over the course of the semester (if it has not, simply state so and why). You may also wish to include discussion as to how you anticipate using electronic information resources in your work and research. You may include discussion of evidence based health care in your paper if you so choose. (SLO 3, 4 & 5)

**Grading Scale**

- 90% – 100% = A
- 80% – 89% = B
- 70% – 79% = C
- 60% – 69% = D
- 0% – 59% = E

**Grading Policy**

Class assignments are due on or by the due date noted on the individual assignments. The majority of the student’s grade is based on the cumulative total received on individual assignments. Late assignments will only be accepted by students who have an excused absence as defined by University policy and stated below.

**Class Participation**

Regular participation in this class is required. This means logging into the course at least two times each week, staying current with discussion posts, readings and assignments and reviewing all lecture materials posted online.

**Submission of Course Assignments**

Assignments should be submitted via Canvas.

Again, class assignments are due on or by the due date noted on the individual assignments. The majority of the student’s grade is based on the cumulative total received on individual assignments.

**Final Exam Information**

The final exam will be posted online the last week of classes. It will be due no later than the last day of finals.

**Mid-term Grade**

Mid-term grades will be posted in myUK by the deadline established in the Academic Calendar ([http://www.uky.edu/Registrar/AcademicCalendar.htm](http://www.uky.edu/Registrar/AcademicCalendar.htm))

**Course Policies:**

**Submission of Assignments:**

There will be a series of assignments distributed throughout the course of the semester. These assignments are based on information and resources covered in the class and readings. These
assignments comprise the majority of the student’s grade. Completed assignments are expected to be returned to the instructor prior to or on the date noted on the assignment.

**Late Assignments:**
Assignments should be turned in on or before the day specified. For students with an *excused* absence, as defined by University policy and stated below, late assignments will be due by the date requested by the instructor. Students with an excused absence have one week to contact the instructor to make arrangements for late assignments. For each week beyond this, the assignment will be considered late and 10% of the grade will be subtracted from the total grade for the assignment. In the case of an *unexcused* absence, for each week an assignment is late, 10% of the grade will be subtracted from the total grade for the assignment.

**Incompletes:**
A grade of Incomplete due to illness or other emergencies may be arranged. A request for an Incomplete due to illness must be accompanied by a letter from your doctor, the Student Health Service, or a hospital. Lack of time to complete assigned work, or other reasons not related to unavoidable excused reasons, will not be accepted.

**Excused Absences:**
(Note: This policy is provided in reference to due dates for assignments.)

Students need to notify the professor of absences prior to class when possible. Senate Rules 5.2.4.2 defines the following as acceptable reasons for excused absences: (a) serious illness, (b) illness or death of family member, (c) University-related trips, (d) major religious holidays, (e) interviews for full-time job opportunities post-graduation and interviews for graduate or professional school, and (f) other circumstances found to fit “reasonable cause for nonattendance” by the professor.

Students anticipating an absence for a major religious holiday are responsible for notifying the instructor in writing of anticipated absences due to their observance of such holidays no later than the last day in the semester to add a class. Two weeks prior to the absence is reasonable, but should not be given any later. Information regarding major religious holidays may be obtained through the Ombud (859-257-3737, [http://www.uky.edu/Ombud/ForStudents_ExcusedAbsences.php](http://www.uky.edu/Ombud/ForStudents_ExcusedAbsences.php)).

For the withdrawal recommendation (students missing a majority of coursework, over one-fifth), Students are strongly encouraged to withdraw from the class if more than 20% of the scheduled classes for the semester are missed per university policy. Please reference the definition of excused absences in the current edition of Student Rights and Responsibilities or on the web at [http://www.uky.edu/Faculty/Senate/rules_regulations/Rules%20Versions/MASTER%20RULES%20fromFebruary%202012_clean.pdf](http://www.uky.edu/Faculty/Senate/rules_regulations/Rules%20Versions/MASTER%20RULES%20fromFebruary%202012_clean.pdf)

Per Senate Rule 5.2.4.2, students missing any graded work due to an excused absence are responsible: for informing the Instructor of Record about their excused absence within one week following the period of the excused absence (except where prior notification is required); and for
making up the missed work. The professor must give the student an opportunity to make up the work and/or the exams missed due to an excused absence, and shall do so, if feasible, during the semester in which the absence occurred.

Verification of Absences:
(Note: This policy is provided in reference to due dates for assignments.)

Students may be asked to verify their absences in order for them to be considered excused. Senate Rule 5.2.4.2 states that faculty have the right to request “appropriate verification” when students claim an excused absence because of illness, or death in the family. Appropriate notification of absences due to University-related trips is required prior to the absence when feasible and in no case more than one week after the absence.

Academic Integrity:

Per University policy, students shall not plagiarize, cheat, or falsify or misuse academic records. Students are expected to adhere to University policy on cheating and plagiarism in all courses. The minimum penalty for a first offense is a zero on the assignment on which the offense occurred. If the offense is considered severe or the student has other academic offenses on their record, more serious penalties, up to suspension from the University may be imposed.

Plagiarism and cheating are serious breaches of academic conduct. Each student is advised to become familiar with the various forms of academic dishonesty as explained in the Code of Student Rights and Responsibilities. Complete information can be found at the following website: http://www.uky.edu/Ombuds. A plea of ignorance is not acceptable as a defense against the charge of academic dishonesty. It is important that you review this information as all ideas borrowed from others need to be properly credited.

Senate Rules 6.3.1 (see http://www.uky.edu/Faculty/Senate/ for the current set of Senate Rules) states that all academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression. In cases where students feel unsure about a question of plagiarism involving their work, they are obliged to consult their instructors on the matter before submission.

When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording, or content from another source without appropriate acknowledgment of the fact, the students are guilty of plagiarism.

Plagiarism includes reproducing someone else's work (including, but not limited to a published article, a book, a website, computer code, or a paper from a friend) without clear attribution. Plagiarism also includes the practice of employing or allowing another person to alter or revise the work, which a student submits as his/her own, whoever that other person may be. Students may discuss assignments among themselves or with an instructor or tutor, but when the actual work is done, it must be done by the student, and the student alone.
When a student's assignment involves research in outside sources or information, the student must carefully acknowledge exactly what, where and how he/she has employed them. If the words of someone else are used, the student must put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content, and phraseology intact is plagiaristic. However, nothing in these Rules shall apply to those ideas, which are so generally and freely circulated as to be a part of the public domain.

Please note: Any assignment you turn in may be submitted to an electronic database to check for plagiarism.

Accommodations due to disability

If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (DRC). The DRC coordinates campus disability services available to students with disabilities. It is located on the corner of Rose Street and Huguelet Drive in the Multidisciplinary Science Building, Suite 407. You can reach them via phone at (859) 257-2754 and via email at drc@uky.edu. Their web address is http://www.uky.edu/StudentAffairs/DisabilityResourceCenter/.

Policies concerning academic integrity, excused absences and academic accommodations due to disability are available online at: https://ci.uky.edu/sis/sites/default/files/policies.pdf

Technology Information & Resources

Distance Learning Students are expected to have a minimum level of technological acumen and the availability of technological resources. Students must have regular access a computer with a reliable Internet connection and audio capabilities. Internet Explorer 7 (IE) or Firefox 2.x are the recommended browsers for those using a Windows-based PC. Those using Firefox 3.x may encounter problems with assignment uploads. Those using an Apple computer with MAC OS X (10.5.x) may use Firefox 3.x or Safari 3.x. Please be certain that your computer and/or browser allow you to view Adobe Reader documents (.pdf). Microsoft Office and other software products are free for students: http://download.uky.edu/.

As your instructor, I am your first go-to person for technology problems. If you need more immediate assistance, please contact UKIT.

Information Technology Customer Service Center (UKIT):
http://www.uky.edu/UKIT/: 859-218-4357

Library Services & Distance Learning Services:
http://libraries.uky.edu/DLLS
Carla Cantagallo, Distance Learning Librarian Phone Number: (859) 218-1240
Email: carla@uky.edu
Interlibrary Loan Service: http://libraries.uky.edu/ILL

For more resources about online classes and student resources, visit http://www.uky.edu/ukonline/

The School of Information Science has a page with a comprehensive list of technology resources here: http://ci.uky.edu/sis/students/techtips

**Military Members and Veterans:**
We recognize the complexities of being a member of the military community and also a student. If you are a member of the military or a military veteran or dependent, please inform your instructor if you are in need of special accommodations. Drill schedules, calls to active duty, mandatory training exercises, complications with GI Bill disbursement, and other unforeseen military and veteran related developments can complicate your academic life. If you are aware of a complication, we will work with you and put you in contact with university staff members who are trained to assist you. Please contact the Coordinator of the University of Kentucky Veterans Resource Center at (859) 257-1148 for additional assistance. Visit http://www.uky.edu/veterans for more available resources.
COURSE CALENDAR

Week 1
Introduction
Overview of the course
Course outline, assignments, exercises, and expectations
Text and supplemental materials

READING:


Available at: http://www.nlm.nih.gov/bsd/disted/pubmedtutorial/cover.html
(You are welcome to take the Quiz at the end of this section of the PubMed Tutorial, and any others, but it will not be graded for this course; they will certainly help with the midterm though.)

National Library of Medicine. Fact Sheet: MEDLINE, PubMed, and PMC (PubMed Central): How are they different?
Available at: http://www.nlm.nih.gov/pubs/factsheets/dif_med_pub.html

MEDLINE EXERCISE 1 ASSIGNED, DUE Week 2

Week 2
Searching in MEDLINE

READING:

Available at: http://www.nlm.nih.gov/bsd/disted/pubmedtutorial/cover.html
(Skip the section entitled “Filters.” We will cover that in Week 4.)

MEDLINE EXERCISE 1 DUE
MEDLINE EXERCISE 2 ASSIGNED, DUE Week 3
Week 3
The Medical Subject Headings (MeSH)

READING:


REVIEW:

MEDLINE EXERCISE 2 DUE
MEDLINE EXERCISE 3 ASSIGNED, DUE Week 4

Week 4
Filters, and additional limiting strategies

READING:


MEDLINE EXERCISE 3 DUE

Week 5
Framing the question
Conducting the reference interview

READING:

REVIEW:

MEDLINE EXERCISE 4 ASSIGNED, DUE Week 6

Week 6
Managing the results
Saving the searches
My NCBI

READING:


MEDLINE EXERCISE 4 DUE
MEDLINE EXERCISE 5 ASSIGNED, DUE Week 7

Week 7
Alternative Interfaces to MEDLINE

READING:


REVIEW:

PubMed PubReMiner
http://hgserver2.amc.nl/cgi-bin/miner/miner2.cgi


MEDLINE EXERCISE 5 DUE

Week 8
Midterm exam
No readings

Week 9
Spring Break
No class this week

Week 10
EndNote and its Alternatives
Final paper assignment distributed and discussed

READING:
Clarivate Analytics. EndNote X8: The EndNote Guided Tour
Available at: http://clarivate.libguides.com/endnote_training/users/enx8

Review relevant web sites:
- Comparison of reference management software
- Mendeley resources
  http://resources.mendeley.com/
- Zotero resources
  https://www.zotero.org/about/
  https://www.zotero.org/support/screencast_tutorials

**ENDNOTE LIBRARY ASSIGNED, DUE Week 12**

**Week 11**
Using Google and Google Scholar for health science literature

**READING:**

How to search on Google
https://support.google.com/websearch/answer/134479?hl=en

Google Search
http://en.wikipedia.org/wiki/Google_Search

**Week 12**
Complementary & Alternative Medicine on PubMed

**READING:**
National Center for Complementary and Alternative Medicine (NCCAM). CAM on PubMed. (Sample Searches, and Background Information) Available at: http://nccam.nih.gov/research/camonpubmed

**REVIEW:**
National Center for Complementary and Alternative Medicine (NCCAM).
http://nccam.nih.gov/
**ENDNOTE LIBRARY DUE**

**Week 13**
TOXNET: Toxicology Data Network

**READING:**
Available through UK Libraries

National Library of Medicine. Fact Sheet: TOXNET: Toxicology Data Network

**REVIEW:**
Learn to Use TOXNET (Give special attention to the “Topics of Interest” on the left panel)

TOXNET and Beyond: Using the National Library of Medicine Environmental Health and Toxicology Portal (Browse only)

**Week 14**
Consumer Health Information
Household Products

**READING:**
MedlinePlus: Frequently Asked Questions

Available at: [http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1324769/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1324769/)

Household Products Database: About Household Products Database

**REVIEW:**
MedlinePlus

Household Products Database

**Week 15**
Systematic Reviews
Evidence-based medicine

READING:
Available through UK Libraries


Available at: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2707599/

REVIEW:
The Cochrane Collaboration: About Cochrane Reviews
http://www.cochranelibrary.com/about/about-cochrane-systematic-reviews.html

Cochrane Handbook for Systematic Reviews of Interventions
http://handbook.cochrane.org/

REFLECTION PAPER ASSIGNED, DUE Week 16

Week 16
Wrap up
REFLECTION PAPER DUE
FINAL PAPER DUE ON MAY 4th