

**Information Resources in the Health Sciences**

**INF 382K Spring 2012** (Unique Number: 28515)

Wednesdays, 6:00-9:00pm UTA 1.504

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**I. COURSE DESCRIPTION**

A seminar-oriented introduction to electronic and print health information resources useful to consumers and health care professionals for understanding health promotion and disease/disorder prevention, diagnosis, treatment, prognostic assessment, and management.

Includes allopathic and integrative healthcare information approaches, and genetic and evidence based approaches and resources. Evidence-based and popular, heavily used resources are emphasized, including those of the National Library of Medicine (NLM) and other NIH agencies, the Medical Library Association, and other key resources and technologies.

Requirements include (1) completion of assignments involving familiarization with medical terminology, provision of health information to professional clientele, formulation of search strategies, searching various resources, and a comprehensive take-home examination on these topics; (2) brief presentations of selected textbook chapters related to common health questions and brief discussion leadership of these textbook chapters; (3) completion of an in-depth and extensive information search on one of the top killer diseases/disorders; (4) proactive and constructive class participation.

## II. COURSE OBJECTIVES

1. To acquire initial **working knowledge** of the following **health topics**, concepts or entities and their corresponding **information resources**:
  - basic medical terminology and the characteristics of major diseases and disorders, including preventive measures, etiology, epidemiology, diagnosis, treatment, and prognosis;
  - key health organization services, including those of NLM, NIH, CDC, HealthFinder, WHO, MLA, Evidence-based aggregators and sites, and major health science center libraries (including such nearby resources as Briscoe Library at UTSCSA, the Houston Academy of Medicine Library-Texas Medical Center, the Texas Department of State Health Services Library, Brackenridge Clinical Education Center and Library, Dell Children's Hospital Library, etc.);
  - hard copy printed health reference resources (books, journals, dictionaries, encyclopedias, monographs, etc.);
  - genetic and bioinformatics information resources;
  - information retrieval thesauri subject headings, search strategies, and key, related guides;
  - major bibliographic databases and search engines, including PubMed, Google Scholar, SUMSearch, Dynamed, MDconsult, UptoDate, Essential evidence Plus, FirstConsult, SUMSearch, Wikipedia, Wiser, and other mobile health technologies.
  - Trends in search engine use for research, clinical decision support, point of care access and consumer health,
2. To acquire competence in briefly presenting and leading discussions on selected health topics and resources to assist fellow health professionals and consumers.
3. To conduct a **comprehensive search** on a major disease category and to conduct practice searches on one or more assigned health problems. Examples include searches on health promotion and prevention, and on chronic or episodic diseases.

## III. REQUIRED TEXTBOOKS

1. Kane, L. T and others. (2008). *Answers to the Health Questions That People Ask in Libraries*. NY: Neal Schulman. (ISBN: 978-1-55570-642-5).

This useful book will serve as our primary textbook. Accordingly, everyone should purchase the Kane book. It may be purchased online for about \$25-\$50 or \$70 new. The book provides useful guides to frequently asked health questions. Everyone should purchase this book.

2. Huber, J. A., Boorkman, J. A., and Blackwell, J. (eds.), (2008). *Introduction to*

*Reference Resources in the Health Sciences*, 5<sup>th</sup> edition. Edison, NJ: Neal Schuman. (ISBN 1-55570-481-6).

The book is our secondary textbook and class partners may purchase it together to share with each other. The book organized by information resource categories instead of health problem or content categories (even though health problems typically drive both consumer and professional information searches). The book may be purchased for \$65 to \$85 online or from the University CoOp.

Because this book treats essentially biomedicine information resources and is weak in the areas of complementary/alternative/integrative health approaches, please try to explore evidence-based CAM/integrative health sources and seek out some good, preferably evidence-based supplementary resources that supplement the textbook. The instructor will point out various approaches and resources as we progress through the semester.

#### IV. COURSE REQUIRMENTS, GRADING AND GUIDELINES

**Please note:** Because all three basic assignments described below reinforce each other, you might well try to do them in somewhat of a **parallel fashion** rather than in a strictly linear, or back-to-back fashion.

1. For first objective: Completion of a comprehensive open book examination on the health concepts, resources and venues included under the first objective above (30% of course grade).

We will cover the various topics listed under the first objective in class and also in the required books and readings. The exam will test your familiarity with the services and resources of NLM and other key organizations; reference sources; the usefulness of various web sites; evidence-based approaches; genetic resources; search strategies; bibliographic databases; alternative/integrative medicine concepts; general disease categories, and the use of PubMed and other searching sites and technologies. The exam will consist of a several short answer questions.

2. For second objective: Each person will make about three brief class presentations on selected/assigned health topics (heart disease, cancer, diabetes, etc.) from the Kane textbook and lead a brief class discussion leadership on the topic (30% of grade).

Please read ahead of time the assigned subchapters from the Kane textbook. The assigned discussion leader for each subchapter should make a brief presentation on that subchapter topic and then lead a brief discussion on that health problem. It is not necessary to use slides or make handouts or to make a detailed presentations since everyone will have read each subchapter ahead of time. You may show a

selected web site related to the assigned subchapter's health problem.

3. For third objective: Submission of the results of a **comprehensive** (extensive, intensive, long term) information **search** on an assigned, **major category** disease or disorder. The search should appropriately utilize the kinds of approaches, entities or resources mentioned in the first course objective above: relevant terminology; organizational resources; print, online and web resources; evidence-based, integrative medicine (biomedicine and complementary/alternative medicine), and genetic sources; information retrieval aids; other bibliographic resources (30% grade).

A general (top twenty killer) disease or disorder category will be assigned to each person in the class. Examples of broad disease categories include cardiovascular disease, cancer, arthritis, respiratory diseases, accidents, etc. Stress appears to contribute to, help precipitate, or result from nearly all illnesses, so a paper may be written on dealing with distress.

Your job is to become the “class expert” on this disease or disorder category and share with us the results of your in-depth search on the topic. This is an **in depth** exercise, rather than one of breadth. You should consider various approaches for dealing with the problem: allopathic or biomedicine; Oriental medicine; biofeedback; and other integrative/complementary approaches; literature, database and web resources; genetic approaches, prevention, evidence-based findings; etc. You should aim to support both consumers and professionals in their quest for information about the disease or problem.

As a general approach to searching, we will use such heuristics as the 6S model; the PICO model (Population/Intervention/Comparison/Outcome); the POEMS model (Patient Oriented Evidence that Matters); the “Drill Down” pyramid model (systematic reviews, POEMS, critically appraised topics and reviews, textbooks and journals); and the DOE model (Disease Oriented Evidence). These latter models are illustrated at such sites as

<http://www.healthsystem.virginia.edu/internet/library/collections/ebm/overview.cfm>.

It is generally best to use such sites as MedlinePlus to become familiar with a disorder or disease prior to beginning a search. In any case, alternative/integrative disease categorizations can be different from those of allopathic medicine (biomedicine). Oriental medicine, for example, deploys drastically different disease paradigms and different sets of diagnostic and treatment concepts based on broad sets of holistic relationships between organ systems, energy/moisture flows and environmental relationships. We will address some of these differences.

MedlinePlus descriptions of your assigned/selected disease or disorder may be used as a basic template to format your paper (cite MedlinePlus or acknowledge accordingly), and you can augment that site accordingly. Integrative, genetic, evidence-based, PubMed, domestic and international approaches, and updates should be used to augment the MedlinePlus information.

Each paper should comply with the format, style and page length of articles in the target journal. Journals may be selected from various health disciplines. Information profession journals include the *Journal of the Medical Library Association*, *Medical Reference Services Quarterly*, *Health Information and Libraries Journal*, *Information Research*, and others in your respective areas of interest. Please consult the instructions for authors in the targeted journal.

Searchers will be graded according to coverage of major relevant sources for a reasonably extended time period; consideration of conventional, complementary and genetic approaches; evidence-based assessments; and potential for publication—including compliance to the form and style and page length of a targeted journal.

Please be prepared to share your findings and insights with the class as we progress through the semester.

4. Positive, constructive and proactive class participation and the sharing of insights and information with classmates (10% of grade).

## V. KEY WEB SITES

The following web sites and similar ones are often useful:

- <http://www.mlanet.org>; includes the “MLA Top Ten” sites and links to various MLA publications.
- <http://www.lib.uiowa.edu/hardin/md/index.html>, the “Hardin Meta Directory of Internet Resources,” and similar meta-directories.
- <http://www.nlm.nih.gov>, especially the National Library of Medicine’s database resources, including MedlinePlus;
- <http://www.healthfinder.gov>;
- <http://www.cochrane.org>; the Cochrane Library compiles evidence-based findings as either systematic reviews (literature meta-analysis) and results of controlled clinical trials. Archie Cochrane, MD, pioneered the evidence-based medicine movement after world War II.
- <http://www.merck.com>, which provides online access to *The Merck Manual of Diagnosis and Therapy* (latest professional edition), its Home edition, and six other Merck manuals.
- <http://www.ahrq.gov>, which provides a rich source of health information and up-to-date reports.

- <https://genographic.nationalgeographic.com/genographic/index.html> provides one means of tracing your ancestry and your propensity to have given heritable diseases.
- Please note the large number of useful sites included in the Kane textbook.

## VI. EXAMPLES OF OTHER USEFUL SOURCES (Not required)

1. Please note the availability of various MLA books, monographs, journals, news media, bibliographic sources, etc. (see the MLA publications section).
2. Egger, M., Smith, G. D. and Altman, D. G. (2001). *Systematic Reviews in Health Care: Meta-Analysis in Context*. (2d ed). London: BMJ Publishing Group. Book's web site is <http://www.systematicreviews.com>.
3. Mulrow, C. and Cook, D. (eds.). (1998). *Systematic Reviews: Synthesis of Best Evidence for Health Care Decisions*. Philadelphia: American College of Physicians.
4. Kaptchuck, T. J. (2000). *The Web That Has No Weaver*. Chicago: Contemporary Books. ISBN: 0-8092-2840-8. Definitive book on Oriental medicine.
5. Pizzorono, J. E., Murray, M. T. and Joiner-Bey, H. (2002). *The Clinician's Handbook of Natural Medicine*. NY: Churchill Livingstone.
6. Kellerman, F. R. (1997). *Introduction to Health Sciences Librarianship: A Management Handbook* Westport, CT: Greenwood Press. This book is likewise useful for learning about reference resources despite being a bit out of date. Davis, J. B. (ed.). (2003). *Healing & Medicine on the Internet (4<sup>th</sup> ed.)*. Los Angeles: Practice Management Information Corporation.
7. Spencer, J. W. and Jacobs, J. J. (2003). *Complementary and Alternative Medicine: An Evidence-Based Approach*. St. Louis: Mosby.
8. Campbell, T. C and Campbell, T. M. (2004) *The China Study*. Dallas: Benbella Books.
11. Detwiler, S.M. (2000). *Supersearchers on Health & Medicine*. Medford, NJ: Information Today, Inc. ISBN: 0-910965-44-7. Note the web resources on the <http://www.infotoday.com> site for this book. The book is dated, but lots of its expert advice is still useful.
12. Goldberg, B., Anderson, J. W. and Trivieri, L. (2002). *Alternative Medicine:*

*The Definitive Guide (2d.ed.)*. Berkeley, CA: Ten-Speed Press. ISBN: 15876111414.

13. Life Extension Foundation (2006 or latest). *Disease Treatment and Prevention*, 4<sup>th</sup> ed. Hollywood, FL: Life Extension Foundation
14. Connor, E. (2005). *A Guide for Developing End User Education Programs in Medical Libraries*. Binghamton, NY: The Hawthorn Press.
15. Guyatt, G. and Drummond, R. (eds). (2002). *User's Guide to the Medical Literature: A Manual for Evidence-Based Clinical Practice*. Chicago: American Medical Association. See also their pocket guide, *Essentials of Evidence-Based Clinical Practice*.
16. Sackett, D. L. and others. (2002). *Evidence-Based Medicine: How to Practice And Teach EvidenceEBM*. London: Churchill and Livingstone.
17. Many highly useful articles can be found in the *Journal of the Medical Library Association*, available online via UTLOL.
18. Kohatsu, W. (2002). *Complementary and Alternative Medicine. Integrating CAM Therapies into Clinical Practice*. Philadelphia: Hanley & Belfast. Previously used as a supplementary textbook for this course.
19. Jankowski, T. A. (2008), *The MLA Essential Guide to Becoming an Expert Searcher*. NY: Near-Schuman Publishers, Inc. Contains exercises.
20. Wood, Sandra (ed.). (2007), *Introduction to Health Sciences Librarianship*. NY: Hawthorne Press.
21. Various books on longevity (examples to be distributed in class) will be useful in completing all course objectives.

## **VII COURSE POLICIES**

1. *If possible, matters pertinent to the course should be raised during the class so that everyone is given the same information.*
2. Please generally avoid the use of email to communicate with the instructor, aside from simple queries. Again, it is best to raise questions in class as they occur, since others might have a similar query and because everyone should be given the same information.
3. Because the instructor welcomes your comments about the course, one or more informal surveys will be given during the semester, in addition to the

formal survey at the end of the semester. Specific comments are more useful than vague ones. You may comment to the instructors directly or indirectly at any time during the semester; comments may be oral or written and submitted anonymously.

4. Please read ahead of time the assigned readings to be addressed in class. Avoiding stress becomes especially important as the semester progresses. November and April are almost always very stressful months for everyone, owing to an accumulation of assignments and other pressures.
5. The instructors use a mentoring (graduate oriented) rather than a didactic (undergraduate) approach to instruction. Because we will be exposed to a huge ocean of health information in a somewhat random order, please try to organize the information against your individual career objectives.
6. A grade of Incomplete cannot officially be given unless there are extenuating circumstances, such as verifiable illness or death in the immediate family.
7. Please let the instructor know ahead of time if you must be absent from class.
8. In fairness to those who submit written work by deadline dates, there will be a small penalty for late submissions.
9. Any student with a documented disability (physical or cognitive) who requires academic accommodations should contact the Services for Students with Disabilities area of the Office of the Dean of Students at 471-6259 (voice) or 471-4641 (TTY for users who are deaf or hard of hearing) as soon as possible to request an official letter outlining authorized accommodations.

## **VIII. COURSE CALENDAR (Subject to change)**

Please note: The subtopic order under each date in the calendar below can be different from the order in which we address these topics in class. Often, we will try in class to address (1) the first Objective (take home exam topics) in the first hour, (2) the second objective (brief presentations) in the second hour, and (3.) the third objective (comprehensive search on a killer disease) in the third class hour. In this way, the three objectives and their corresponding project or exam assignments might be more mutually reinforcing.

### **Wednesday**

#### **January 18**

- Preview of course
- Textbook purchasing

- Health information career options/certification
- Introductions
- Please start becoming familiar with the MLA and NLM sites; these are large sites.

### January 25

- Career options
- Overview of major web sites
- The search process/terminology
- MedlinePlus, PubMed and NLM Gateway
- **Read the Kane textbook's Forward and Preface and skim its entire content.**
- **Skim the Huber textbook's, "Preface" and "Brief History," vii-xiv and Chapter 1.**
- MLA Top Ten and other sites.
- Discuss comprehensive search topics, presentation topics, and take-home exam.

### February 1

- Terminology and acquiring disease knowledge prior to search
- MESH and other NLM Guides; begin PubMed tutorials
- Evidence-based approaches; Cochrane Library
- **Read Kane, Pages 1-26. Those assigned the heart disease and cancer subchapters should be prepared to give brief presentations and lead discussions on these topics.**
- **Read Huber, Chapters 2 and 3.**
- Discuss comprehensive search topics and tutorials

### February 8

- **Read Kane, pages 27-51 on diabetes, HIV/AIDS, and women's health. Assigned discussion leaders should present and lead brief discussions.**
- **Read Huber, Chapter 4**
- Terminology and disease background
- MedlinePlus reference sources
- Discuss PubMed, SUMSearch, Google Scholar and other popular resources
- Genetic approaches
- **Comprehensive search disease/disorder category topics selected/assigned.**

### February 15

- **Read Huber, Chapters 5 and 6.**
- **Read Kane, pages 52-73. Present and lead discussions on children's, mens and senior health.**

- Terminology and background
- Discuss PubMed
- Discuss comprehensive search and take-home exam.

### February 22

- **Read Kane, pages 74-96. Present and lead discussions on general family health and vaccinations.**
- **Read Huber, Chapters 7 and 8.**
- Comprehensive searching
- Capstone and field study options

### February 29

- **Read Kane, pages 97-120. Present and lead discussions on nutrition and exercise, vitamins and supplements, alcohol and stimulants.**
- **Read Huber, Chapters 9 and 10**
- Discuss PubMed and other searching resources
- Other key databases
- Discussion of comprehensive, in-depth searches
- Complementary approaches

### March 7

- **Read Kane, pages 121-137. Present and lead discussions on healing systems, mind-body connections, and herbal medicine and dietary supplements.**
- **Read Huber, Chapters 11 and 12**
- Discuss searching

### March 14 No class: Spring Break!

- **Read Huber, Chapters 13 and 14**
- **Continue reading Kane chapters.**

### March 21

- **Read Kane, pages 138-165. Present and lead discussion on manipulation, energy therapies and OTC medications.**
- Discuss searching
- Discuss Exam to be issued

### March 28

- Discuss searching
- **Read Kane, pages 166-182. Discussion of prescription medicines and other drug information.**
- Other online resources
- **TAKE HOME EXAM ISSUED**

**April 4**

- **Read Kane, pages 183-202. Discuss unusual or misunderstood health conditions and technology related health questions.**
- Discuss searching
- Online bibliographic and web resources

**April 11**

- Discuss searching
- Discussion of exam
- Online bibliographic and web resources

**April 18**

- Discuss comprehensive searches
- **Take Home Exam Answers due**

**April 25**

- Discuss Open Book Exam Answers
- Discuss comprehensive searches

**May 2 Last Class**

- Discuss comprehensive searches
- Course survey

**May 9 (Not a class day)**

- **DUE: COMPREHENSIVE SEARCH REPORT.**