

School of Information Sciences

Graduate Library and Information Science Program

LIS 2587 Applications in Medical Informatics

Spring Term 2013

A survey of concepts and activities in medical informatics, including introductions to:

- Applications of information technology for knowledge-based information and library informatics
- Integrated hospital information systems and clinical decision support
- Nursing, pharmacy, dental and veterinary informatics
- Imaging informatics
- Telehealth and robotics
- Informatics and medical education
- Applications of informatics in legal and ethical areas
- International applications for medical informatics
- Consumer informatics and patient-specific information

No pre-requisites.

Intended for masters-level graduate students in the helping and service professions without clinical experience. Also intended for practicing medical librarians and health information professionals who want to update knowledge in the field of medical informatics.

Expected class size: maximum of 25. Students attend class online, asynchronously, via CourseWeb, the University's online course management program. Some students are in the FastTrack MLIS Program, some are online on-campus MLIS students, and some are in the WISE program from other universities.

This course is offered once a year, in the Spring Term (January-April).

Course Faculty:

Ellen G. Detlefsen, DLS

Associate Professor, Library & Information Science

Training Program Core Faculty, Department of Biomedical Informatics

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CALENDAR: Class materials, in the form of a PowerPoint® slide set and an MP3 audio file, will be distributed via Blackboard/CourseWeb on Thursday afternoons.

January 10, 2013 Session 1 - *Introduction. Definitions. Literature & Resources. Professional Associations, Federal Agencies/Funders.*

January 17, 2013: Session 2 - *NLM and Informatics. Informatics and Education. Medical Libraries and Informatics.*

January 24, 2013: Session 3 - *UMLS: The Unified Medical Language System. Ontologies.*

January 30, 2013: Session 4 - *Health Information Management Systems. The Electronic Medical Record. HIPAA.*

February 7, 2013: Session 5 - *Imaging Informatics. Pathology & Radiology Informatics.*

February 14, 2013: Session 6 - *Pharmacy Informatics.*

February 21, 2013: Session 7 - *Nursing Informatics.*

February 28, 2013: Session 8 - *Public Health Informatics. Veterinary Informatics.*

March 7, 2013: Session 9 - *Dental Informatics*

March 14, 2013: NO CLASS - University Spring Break

March 21, 2013: Session 10 - *Telemedicine & Telehealth. Robotics.*

March 28, 2013: Session 11 - *Ethical and Legal Issues in Informatics. Education for Informatics.*

April 4, 2013: Session 12 - *International Issues in Informatics*

April 11, 2013: Session 13 - *Consumer Informatics*

April 18, 2013: Session 14 - *The Online Poster Session. The Future of Informatics.*

COURSE REQUIREMENTS

1. *Weekly review of slides and audio files*
2. *Readings as assigned*
3. **Active* participation on the weekly CourseWeb Discussion Boards*
4. *7 written exercises*
 - *Introduction*
 - *Professional Journal Review*
 - *HIPAA Training Certification*
 - *Image-rich Website Review*
 - *Informaticist Biography*
 - *International Perspective Paper*
 - *Interactive/Intelligent Website Review*
5. *Final project: Structured Abstract/Online Poster/Handout*

READINGS

- Textbook: Cleveland AD, Cleveland DB. *Health Informatics for Medical Librarians*. New York: Neal-Schuman, 2009. Note: the textbook is available directly from the publisher at a 10% discount: go to the Neal-Schuman web site <http://www.neal-schuman.com/> and search for the book by title or author; add the book to your cart and at check out, enter the coupon code DETL12. New and used copies of the textbook are also available from online book retailers; it is NOT available in the University Book Center.
- Additional Web-based readings will also be distributed to the class via CourseWeb weekly.

EXERCISES

[1] Introduction, DUE January 17, 2013

Go to the designated Discussion Board on CourseWeb and post a 300 word "autobiography." Please attach or include a photo. Links to a personal homepage are also welcome! Also, please answer these two questions: *what experience, if any, have I had with any kind of information technology in health care (as a consumer, worker, etc.)?* and *why am I taking this course?*

[2] Professional Journal Review, DUE January 24, 2013

Choose a professional journal in medical informatics from the list distributed in class, and clear your choice with the instructor. Then, read at least a year's worth of the journal, and write an evaluative review for your colleagues. The reviews will be shared electronically so that each participant will have the comments from all other classmates. Each student will review a different journal. The review should be posted to the designated Discussion Board on CourseWeb by noon on the due date.

[3] HIPAA Training Certification, DUE January 30, 2013

Please complete the module for HIPAA training entitled UPMC Information Privacy and Security Awareness Training for Students, Trainees, Health Professionals and Other Individuals Who Are NOT UPMC Employees, which is available at <https://cme.hs.pitt.edu/servlet/IteachControllerServlet?actiontotake=loadmodule&moduleid=6381>. You may have to register and establish an account in order to complete the module. After you log into the site, you will need to review the content and successfully complete the quiz. When you finish the quiz, you will be given a certificate of completion. PLEASE SEND ME A COPY OF YOUR CERTIFICATE. IF you have already been HIPAA-certified by some other institution, please send me "proof".

[4] Image-rich Website Review, DUE February 7, 2013

Choose an image-rich medical website (in a field such as anatomy, history of medicine, radiology, pathology, genetics, etc.) and clear your choice with the instructor. Explore that website and review it for your colleagues. The reviews will be shared electronically so that each participant will have the comments from all other classmates. Each student will review a different website. The review should be posted to the designated Discussion Board on CourseWeb by noon on the due date.

[5] Informaticist Biography, DUE March 7, 2013

Select one individual who is active in the field of medical informatics, from the list supplied by the instructor. Using your literature and web searching skills, prepare a biographical sketch for that individual, including information about his or her educational background, current job responsibilities, published works, professional association involvement, etc. Please include a list of three questions, the answers to which would have been helpful in understanding the chosen individual's special activities in medical informatics. Summarize your findings in a paper of no more than 5 pages, and post it in the designated Discussion Board on CourseWeb.

[6] International Perspective Paper, DUE March 28, 2013

Choose a country other than the United States; clear your choice with the instructor, and investigate (using the professional literature and the Web, and if possible, by interviewing or e-interviewing individuals with knowledge of the country you have selected) the extent to which medical informatics, or some aspect of the field of medical informatics, is a part of that country's health care infrastructure. Summarize your findings in a paper of no more than 5 pages. The paper should be posted to the designated Discussion Board on CourseWeb by noon on the due date.

[7] Interactive/Intelligent Website Review, DUE April 11, 2013

Choose an "intelligent" or "interactive" health website targeted to either students or consumers, chosen from a list of likely candidates which will be distributed to the class. Then, complete the tasks expected of a visitor to the website, and review the website for your colleagues. The reviews will be shared electronically so that each participant will have the comments from all other classmates. Each student will review a different website. The review should be posted to the designated Discussion Board on CourseWeb by noon on the due date.

[8] Final Project: Structured Abstract DUE Wednesday, April 10, 2013
Online Poster/Handout DUE Wednesday, April 17, 2013.

You should choose a topic related to a current issue in medical informatics. In consultation with the instructor, choose a problem that interests you personally or one that needs to be accomplished professionally. Clear your choice of topic with the instructor.

Please prepare an online poster for a professional meeting, etc., on the topic. You must also prepare a structured abstract for your work and a 2-page handout/bibliography for your peers. Your material will be presented in class on the due date. Structured abstracts must be submitted electronically to the instructor one week prior. The actual poster presentation will be presented for the colleagues on the last day of class.

Information about, and templates for, preparing "traditional" posters and online posters can be found at

- D. Shelledy. *How to Make an Effective Poster*.
<http://www.rcjournal.com/contents/10.04/10.04.1213.pdf>
 - *Design of Scientific Posters*. <http://writing.engr.psu.edu/posters.html>
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A note on Citations: Please choose and use a standard citation style and style manual whenever you cite the work of another; a good choice for those interested in medicine is the *Uniform Requirements for Manuscripts Submitted to Biomedical Journals*

- <http://www.icmje.org/>

Additional good information can be found in the NLM publication entitled *Citing Medicine: the NLM Style Guide for Authors, Editors, and Publishers (2nd ed.)*

- <http://www.ncbi.nlm.nih.gov/books/NBK7256/?redirect-on-error=HOME&depth=2>

You may also want to look at this resource from the Medical Library Association.

- *MLA Style Manual.* <http://www.mlanet.org/publications/style/index.html>

A Note on Grading: My grading practices are grounded in the pragmatic notion that, in a professional school, the instruction should be provided in a manner that prepares students to enter the profession with enthusiasm for the field and a realistic skill set for their first professional position. In real terms, this means that I grade student work with a professional metric that emphasizes meeting expectations rather than achieving a certain numerical score or letter grade:

++ = extra credit (*extra-ordinary work*)

√+ = Excellent (*outstanding insight into subject matter; exceptional clarity of presentation*)

√ = Good (*fulfills all course requirements; competent treatment of subject matter; clear presentation*)

√- = Fair (*partial understanding of subject matter; presentation does not conform to instructions or is hard to follow*)

√-- = Poor (*poor understanding of subject matter; confusing presentation; assigned work is partly incomplete*)

∅ = Fail (*lack of basic understanding of subject matter; assigned work is not turned in*)

Note: I will return papers to you twice during the term by snailmail; I will also email a progress report twice during the term.

A note on Deadlines/late assignments: Assignments must be submitted by noon (Eastern Time) on the day they are due. Assignments that are submitted after the due date will be considered as late submissions, and will not be eligible for a check-plus. If extenuating circumstances interfere with your ability to submit an assignment on time (e.g. serious illness, bereavement, an accident, an "Act of God"), it is your responsibility to contact the instructor as soon as possible.

A note on Plagiarism: Plagiarism will not be tolerated. For an explanation of what constitutes plagiarism, see the University of Pittsburgh policy and procedures statements. The result of plagiarism on any assignment will be a √-- grade for at least that assignment. If the plagiarism is found to be a repeated offense, the grade for the course will be an "F."

A note on Language Courtesy: Inclusive language: Gender-inclusive language is required in all course work. The use of respectful language in any situation is not a matter of political correctness, but one of simple courtesy.

A note on Special Needs: Students with disabilities who require special accommodations or other classroom modifications should notify the instructor and the University's Office of Disability Resources & Services (DRS) no later than the 2nd week of the term. Students may be asked to provide documentation of their disability to determine the appropriateness of the request. DRS is located in 216 William Pitt Union and can be contacted at 412-648-

7890 (Voice), 412-624-3346(Fax), and 412-383-7355(TTY). Students who must miss an exam or class due to religious observances must notify the instructor ahead of time and make alternative arrangements.

***A note on Nondiscrimination:** As a professor at the University of Pittsburgh, I value equality of opportunity, human dignity, and racial/ethnic/cultural diversity. Be assured that I will promote a safe and conducive environment for learning. In accordance with University policy, I will not tolerate discrimination or harassment on the basis of race, color, religion, national origin, ancestry, sex, age, marital status, familial status, sexual orientation, disability, or status as a disabled veteran or a veteran of the Vietnam era. In addition to the University's policy, and within the bounds of the course, I do not discriminate on the basis of political creed. This means that you do not have to agree with me in order to do well in this course. So long as you demonstrate an understanding of the course material, you are under no obligation to agree with it. I also make every effort to avoid discrimination on the basis of class or income. If there is something I can do to make the class more hospitable, please let me know. [Adapted from Prof. Connie Oxford's WS 0500 Intro to Feminist Studies syllabus]*

***A note on Accessibility:** Blackboard 7.3 is ADA Compliant and has fully implemented the final accessibility standards for electronic and information technology covered by Section 508 of the Rehabilitation Act Amendments of 1998. Please note that, due to the flexibility provided in this product, it is possible for some material to inadvertently fall outside of these guidelines.*

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