

University of Maryland, College Park

Department of Public and Community Health

HLTH 688 Y Advanced Public Health Informatics

Instructor: C. Ed Hsu, PhD, Assistant Professor
of Public Health Informatics

OFFICE HOURS

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Semester: Summer (beginning 6/12), 2006

Monday – 17:00-20:00

Tuesday – 17:00-20:00

Wednesday – 9:00-17:00

WebCT Time: The curriculum is on WebCT at all time.
Please complete course assignments as
specified in the week.

Required Textbooks & Other Readings	<p>Required: <i>Patrick W. O'Carroll, William A. Yasnoff, M. Elizabeth Ward et al (eds). <u>Public Health Informatics and Information Systems</u>. Health Informatics series. Springer Publishing. January 2003. ISBN: 0387954740.</i></p> <p>Highly Recommended: Alan Melnick. <u>Introduction to Geographic Information Systems in Public Health</u>. ISBN: 083421878X. Jones and Bartlett Publishers. 2002.</p>
Course Description	<p>The curriculum includes three core components: applications, advanced concepts and research of informatics in health care and public health. It is not a course in computer programming. The main focus is on the application of technology, with a particular emphasis on the private/public sector of health information management. It is designed to familiarize students with critical applications & research issues confronting health practitioners in assessment, implementation and assurance of data driven decision-making.</p> <p>Each module consists of several book chapters or research articles to help students understand core concepts and practice in health informatics. Students are required to complete quiz or essay questions after each class. Students will also expect to submit an informatics business plan that demonstrates competencies of public health informatics practice.</p>
Course Objectives	<p><u>At the conclusion of this course, the student will be able to:</u></p> <ol style="list-style-type: none"> (1) Demonstrate proficiency in describing key health information systems. (2) Demonstrate the ability to analyze and present health data. (3) Successfully demonstrate the use of informatics approach to conducting research in health environments. (4) Design or evaluate a health informatics system that applies the use of Internet technology in (public) health organizations. (5) Develop a business plan to implement at least one computer system to evaluate or facilitate the operation of a public health information system. (6) Become familiarize with new challenges in health information systems.

Course Policies

Missed quiz or essay question assignments:

You are our greatest class resource. Your thoughts, ideas, questions and comments will enrich everyone's learning experience, so please be actively involved in class. Enthusiastic online discussions are welcome! Come to class prepared by reading the text and articles of each online module.

If you cannot complete the course requirement, or if you are ill or encountering personal difficulties, please call or email to the instructor as soon as possible. You can also contact the Learning Assistance Service (301-314-7693) and or the Counseling Center (301-314-7651). If you are unable to be in class on the day of a class or an assignment, please discuss this with the instructor **BEFORE** the actual week of the class or assignment.

Accommodations for students with disabilities:

If you have a documented disability and wish to discuss academic accommodations for class requirements or other needs, please talk to/email the instructor as soon as possible. You will need documentation from Disability Support Service (314-7682.) If you intend to take any or all exams at DSS it is your responsibility to notify me as soon as possible.

Academic Integrity:

The University's code of academic integrity is designed to ensure that the principle of academic honesty is upheld. Any of the following acts, when committed by a student, shall constitute academic dishonesty:

- ✓ CHEATING : intentionally using or attempting to use unauthorized materials, information, or study aids in an academic exercise.
- ✓ FABRICATION: intentional and unauthorized falsification or invention of any information or citation in an academic exercise.
- ✓ FACILITATING ACADEMIC DISHONESTY: intentionally or knowingly helping or attempting to help another to violate any provision of this code.
- ✓ PLAGIARISM: intentionally or knowingly representing the words or ideas of another as one's own in any academic exercise.

For more information see:

<http://www.inform.umd.edu/CampusInfo/Departments/PRES/policies/iii100a.html>

Religious Observances:

The University System of Maryland policy provides that students *should not be penalized because of observances of their religious beliefs; students shall be given an opportunity, whenever feasible, to make up within a reasonable time any academic assignment that is missed due to individual participation in religious observances.* **It is the student's responsibility to inform the instructor in advance of any intended absences for religious observance.**

Advanced Public Health Informatics

- S y l l a b u s -

Week 1 Week of 6/12	<p>Topic: Introduction: Course Outline. An overview of IT and public health.</p> <ul style="list-style-type: none"> Library Resources: Introduce UMCP research resources available for conducting research in public health information systems. <p>Required Reading / Assignment: Chapter. 8 Managing IT Personnel and Projects</p>
Week 2 Week of 6/19	<p>Topic: Public Health Informatics Data standards</p> <p>Required Reading / Assignment: Chapter. 11 Data Standards in Public Health Informatics.</p>
Week 3 Week of 6/26	<p>Topic: Health Surveillance Data.</p> <p>Required Reading / Assignment: Chapter. 15 Morbidity Data.</p>
Week 4. Week of 7/03	<p>Topic: Risk Factors and Informatics</p> <p>Required Reading / Assignment: Chapter. 16 Risk Factor Information Systems.</p>
Week 5. Week of 7/10	<p>Topic: Environmental Health Surveillance Systems.</p> <p>Required Reading / Assignment: Chapter. 17 Informatics of Toxicology and Environmental Public Health.</p> <p>Project pre-proposal due.</p>
Week 6 Week of 7/17	<p>Topic: Knowledge-based Information Systems.</p> <p>Required Reading / Assignment: Chapter. 18 Knowledge-Based Information and Systems.</p>
Week 7 Week of 7/24	<p>Topic: Public Health Surveillance System – an Application.</p> <p>Required Reading / Assignment: Chapter 22. Immunization Registries: Critical Tools for Sustaining Success.</p>
Week 8 Week of 7/31	<p>Topic: Information Network and Health Decision-Making.</p> <p>Required Reading / Assignment: Chapter. 26 Networking/Connecting People in a Sustainable Way: Information Network for Public Health Officials.</p>
Week 9 Week of 8/7	<p>Topic: Integrated Health Information System.</p> <p>Required Reading / Assignment: Chapter. 28 Developing the Missouri Integrated Public Health Information System.</p>
Week 10 Week of 8/14	<p>Topic: Challenges and Opportunities for Health Informatics</p> <p>Required Reading / Assignment: Chapter 31. International Networking: Addressing the Challenge of Emerging Infections.</p>

Grading					
190-200 points	A+	180-189 points	A	170-179 points	A-
160-169 points	B+	150-159 points	B	140- 149 points	B-
130-139 points	C+	120-129 points	C	110-119 points	C-
109 & below	F				

Course Requirements and Grades:

Grades will be based on the following criteria:

- 1) Module assignments: Quiz and Essay Questions (90 points),
- 2) project proposal (50 points),
- 3) a final, full business plan for an advanced information system (60 points).

Final grade: A letter grade will be assigned to as a final grade according to the aforementioned grading rules. Attendance is expected and 20 points will be docked per assignment missed if a student misses more than 2 class assignments without advanced notice and/or due justifications (as explained in the “*course policies*” section). A 10% penalty will be assessed against late submitted assignment. Final business plan should be conducted by individual student, and the Plan should not duplicate the contents submitted for other courses.

A project proposal is expected to be no more than 3 pages, and a full, final business plan is expected to be no more than 20 pages, and should utilize concepts acquired in this course. Written assignments are expected to be proofread before submission for a grade. Papers with excessive typos/grammar errors may not be graded. Potential topics should be discussed with the instructor. Examples of topics may include but are not limited to the following areas: hospital information systems, telemedicine, clinical decision-support systems, computer-based patient records, GIS applications in health, and community health info systems.

Final Project: A business plan for public health information Implementation

Students are expected to prepare a health informatics business plan outlining the use of a particular technology within a health care organization. A sample business plan will be provided. This business plan assignment shall at least address the following questions:

- 1) What is the type of technology or innovation being considered?
- 2) What is the background of the health organization that uses this technology?
- 3) How does this technology fit in the overall strategic plan of the organization? How does the business plan relate to the concept or theory introduced in class?
- 4) How will the plan be implemented?
- 5) A “Strength, Weakness, Opportunity and Challenge” (SWOC) analysis.

This assignment will be completed in two phases:

Assignment 1: Proposal - 3 pages maximum due at the end of Week 5. 50 points.

Assignment 2: Business plan. Less than 20 pages. Due one week before class ends: 60 points. Due at the end of the last week.

Competencies

This course most closely relates to the following competency criteria of **community health education** graduate programs

1. Collection, storage, retrieval, analysis and interpretation of health data;
2. Planning, organization, administration, management, and evaluation of health info systems;
3. Describe and analyze the distributions and determinants of disease.

In overall, the course provide an opportunity for students to understand community health analysis, with special reference to community description, analysis of communication pathways, coordinating provision of health education services, and roles of institutions in relation to learning and the behavioral change process.