HI5380 Principles and Foundation of Public Health Informatics

Fall, 2015
3 Semester Credit hours

Course Description

This course provides foundational knowledge relevant to Public Health Informatics (PHI), and exposes students to emerging research and application areas in this field. Topic covered include: public health registries and databases, surveillance systems, data exchange and standards, interoperability issues, the role of informatics in health promotion, use of web 2.0 informatics tools to understand behavior change, public health communication and dissemination, public health policy, and project management. Guest speakers will expose students to the applied settings and how in real world public health informatics is being practiced and will provide a chance for the students to engage and discuss with subject matter experts and applied professionals. A text book reading assignment will complement class discussions and will provide with the background knowledge and historic context to understand and apply the concepts and the experiences from the class.

Learning Objectives

Upon successfully completing this course, students will be able to:
- Define major domains in public health informatics
- Compare and contrast public health informatics with other informatics majors
- Develop basic technical skills to create and understand public health registries
- Develop foundational skills to design and evaluate behavioral informatics systems for health promotion and behavior change
- Demonstrate ability to describe the structure and utility of the data standards, methods and technology resources in public health domain
- Discuss the functions and operations of information technologies that have significant application to public health practice
- Analyze intervention opportunities and specify system design requirements to address informational needs in real world public health setting
- Explain the policy, project planning, and implementation strategies for public health informatics solutions

Prerequisite/Co-requisite

To successfully finish this course, the student will need to have a personal computer and access to the Internet. The student will need to meet the school's requirements for computer access. The latest requirements can be found on the UTSBMI website. http://www.uthouston.edu/sbmi. Students should have basic understanding of the US health care system.

Textbook

Required Readings

- Public Health Informatics and Information Systems. Magnuson, Paul C. Fu, Jr ; Springer, 2014. ISBN-13: 978-1-4471-4236-2.

Beside the textbooks listed above, the student will also be asked to read papers assigned by the course instructor.

Recommended Readings

- Health behavior change and health education: theory, research, and practice.
  Karen Glanz, Barbara K. Rimer, and K. Viswanath, editors; Jossey-Bass, 2008.

Instructor Information

Sahiti Myneni, Ph.D., MSE

Assistant Professor
Office location: UCT 165G
E-mail: Sahiti.Myneni@uth.tmc.edu
Office phone: 713-486-0115

Office Hours: Thurs 4-5pm, or by appointment.

Method of Instruction

The course is offered both online and face-to-face. The online course modules are delivered weekly, which means that new instructional units are presented on a weekly basis. Each unit contains the following elements:

- Unit Overview and Objectives
- PowerPoint presentation(s), readings, and other resources
- Activities including Class Discussions/Presentations/Quizzes

The instructional materials and activities for this course reside in Canvas, a Learning Management System (LMS). The activities for each week should take you about 6 to 9 hours depending on your study skills and previous experience with graduate education, technology, on-line learning and our learning management system, Canvas. Dedicate at least 3 hours each week on the current assignment and 3 to 6 hours of work outside of the course each week. It is expected that you will access the course on a regular basis. As the course progresses you will get a better sense for how frequently you need to access the course site to complete and submit the assignments and meet the course objectives. Canvas monitors your access and activities in the course and the course instructor may contact you if you do not access and make reasonable progress in the course over a period of time.

Successful course completion requires having access to the current course resources and materials, reading the course materials, actively participating in learning activities such as discussions, group projects and completing all assignments, quizzes and exams. Completing all the assignments is required in order to receive a course grade.

The instructor will respond to student emails, monitor student progress and answer questions posted on the discussion forums, and send out weekly announcements or emails to the class. It is your responsibility to check your UTH e-mail account regularly (at least weekly) to make sure you receive announcements and

information sent out by your instructor.

Instructions and expectations (rubrics) are provided for assignments and grading throughout the course. A rubric is an explicit set of criteria used for assessing a particular type of work or performance and usually includes levels of potential achievement for each criterion. A rubric may be used to indicate what should be included on an assignment and the elements that will be graded. It is critical for your success in this course to align your effort with the criteria in the rubrics when working on the assignments.

Course Communications

The faculty will respond to student emails, monitor student progress, and answer questions posted on the discussion forums, and send out weekly announcements or emails to the class. When contacting faculty, please list the course, week and assignment or issue you are discussing since we may be teaching in more than one course.

Generally, all course issues, questions and problems should be dealt with online using discussion forums provided in the Canvas course. Clicking on People on the left navigation pane will provide access to individuals registered in the course. However, for individual situations specific to a single student, contact the faculty regarding the issue at any time using the contact information provided in the syllabus by email, cell phone, using GoToMeeting or meeting in one of the two virtual worlds (Second Life or Avaya Live).

Federal law (FERPA) requires that the university maintain the confidentiality of your information. Therefore, we will only communicate with you using the official UTH email account that has been provided to you. It is your responsibility to check your UTH email account regularly (at least twice weekly) to make sure you receive announcements and information sent out by the School, the faculty, and teaching assistants in a timely manner.

Course Requirements
Time Commitment and Required Coursework
The activities for each week should take you about 9 to 12 hours depending on your present study skills and previous experience with graduate education, technology, on-line learning and Canvas. Dedicate at least 5 hours each week on the current assignment and 4 to 7 hours of work outside of the course each week.
It is expected that you will access the course for the first few weeks on a daily basis and thereafter at least twice each week. As the course progresses you will be able to determine how frequently you need to access the course site to complete and submit the assignments and meet the course objectives. Canvas monitors your access and activities in the course and the course faculty may contact you if you do not access the course regularly and make reasonable progress in the course over a period of time.
Successful course completion requires having access to current course resources and materials, reading the course materials, actively participating in forum discussion, group participation and required class activities as well as completing the weekly assignments. Completing all the assignments is required in order to receive a course grade. In the online learning realm, trying to do things last minute is a sure way to fail and miss deadlines. It is your responsibility to allocate enough time to complete online course activities a timely manner so they are completed on time.

Required Computer Skills
This course requires that you use a computer to access the course materials in Canvas, a course

management system. Computer requirements are listed on the SBMI website. You will be required to upload and download files, chat, and post comments to forums in Canvas. In addition, you will be expected to perform such tasks as word processing, use of spreadsheets, database and presentation software, access Web connections using a browser, and have an ability to navigate websites. You will also be expected to download, install, and use software as part of course assignments.

You may be asked to meet with faculty and other students electronically throughout the semester using such electronic means as email, Skype, and GoToMeeting.

Guidelines for Online Participation

Posting to the course site, such as the Forum, is expected for introducing yourself to your class mates and as required usually once or twice weekly, and as requested throughout the course. Posting requires a substantive contribution to the discussion at that time. Simply saying "hello" or "I agree" is not considered a substantive contribution. Students must support their position, begin a new topic or add somehow to the discussion when posting.

Active participation in the class and completion of the online activities is required. So establishing a presence electronically much like you would do in a traditional classroom is important for recognizing and knowing each other. A photo including a headshot is required for your course profile. This is done by updating your profile by clicking on People from the left side of the course page and then clicking on your name and then clicking the photo area on the upper left side next to your name. Your photo is shown each time you post or email in the course. If you have problems posting your photo let us know so we can help.

Sections in Canvas

The course is taught in the Module format, and each module includes the following sections:
- Unit overview and objectives
- Introduction to the module and learning objectives
- Content presentation(s), readings, and other resources
- This section has objects that you use to complete assignments, such as files with directions, checklists or rubrics. And Resources are links to sites, articles, or files that will provide helpful information for completing assignments.
- Activities including class discussions/forum postings, assignments and weekly quizzes

Online Etiquette

Use good "netiquette" such as:
- Check the discussion frequently and respond appropriately and on subject.
- Focus on one subject per message and use pertinent subject titles.
- Capitalize words only to highlight a point or for titles – otherwise, capitalizing is generally viewed as SHOUTING at others electronically so please be courteous, professional and careful with your online interaction.
- Cite all quotes, references and sources.
- When posting a long message or post, it is generally considered courteous to warn readers at the beginning of the message that it is a lengthy post. Long posts usually more than a page in length can be attached to the post in a file.
- It is considered rude to forward someone else's messages without their permission or knowledge.
- It is fine to use humor, but use it carefully; the absence of face-to-face cues can cause humor to

be misinterpreted as criticism or flaming (angry, antagonistic criticism). Feel free to use emoticons such as ☺ or :) to let others know that you're being humorous.

- Multiple exclamation points should not be used.

(These Netiquette guidelines have been loosely adopted and modified over the years from several sources including Rinaldi, A.H. The Net User Guidelines and Netiquette, Florida Atlantic University, 1994.)

Getting Help and Access to Additional Resources

Do not hesitate to contact the faculty or TA for help by email or by phone. If we are not available leave your contact information. If leaving numbers please repeat them. We will get back to you as soon as possible but at the latest within 24 hours. If you do not hear from us please try again, technology does not always operate perfectly and we appreciate the thought and will do the same for you.

If you have problems or concerns about the course please let us know so they can be addressed in a timely and constructive manner. We are open to your constructive feedback and responsive to adjusting the instruction if needed.

Turnitin Plagiarism Software

Turnitin is online software used to scan documents for the prevention of plagiarism and is available to both students and faculty. Some of your assignments in Canvas may be submitted to Turnitin for review. If you would like to have your written documents reviewed you can contact Distance Education at de@uth.tmc.edu to request access to Turnitin.com to check written documents for academic integrity and to avoid plagiarism before submitting assignments.

APA Formatting

For help with APA style formatting, which is required in this course, you can use OWL, the Online Writing Lab provided by Purdue University. It also provides information on academic writing and can be helpful with course assignments. Check it out at: http://owl.english.purdue.edu/

The Texas Medical Center Library

The Houston Academy of Medicine TMC (HAM-TMC) Library located in the medical center is a great resource and is your access to the literature from databases of current journals and periodicals. You may use their online resources including electronic journals and research databases by registering at: http://library.tmc.edu/resources/resource-access-registration/ and then selecting from the Institution drop box: University of Texas Health Science Center at Houston-Student.

Technical Requirements and Support

This course requires the use of proctored quizzes in addition to the use of the online resources provided in Canvas, our learning management system. Guidelines for students are provided in the course home module in Canvas. A practice / demo quiz is available for you to practice and test your equipment. We strongly advise that you take the practice/ demo quiz well in advance of a real quiz, so that you can get any computer issues resolved during normal business hours. If you have problems with the proctored quiz, refer to the troubleshooting procedure in the student guidelines posted in Canvas.

Please make sure that your computer meets the minimum hardware and software requirements provided at this link. Additional instructions may be provided in the course for accessing other technologies if needed.

Students must have the latest version of their operating system installed including latest security updates and service packs. SBMI recommends installing and using anti spyware, malware and virus control

software, but does not recommend or endorse any particular product. Some examples include the following:

For real time protection:
- Microsoft Security Essentials: http://www.microsoft.com/security/pc-security/microsoft-security-essentials.aspx
- Bit Defender Antivirus Free Edition: http://www.bitdefender.com/solutions/free.html
- AVG: http://free.avg.com/

Other malware removal tools:

- Malwarebytes Anti-Malware: https://www.malwarebytes.org/free/
- Panda Cloud Cleaner: http://pandacloudcleaner.pandasecurity.com/

Students are required to have access to the following for accessing course materials and to complete course activities

- Stable high-speed internet
- Personal computer
- See the requirements list posted at https://sbmi.uth.edu/current-students/student-handbook/computer-requirements.htm

This course may also require:

- Webcam for proctoring of online quizzes and exams
- The use of the Chrome browser for proctoring of online quizzes and exams in conjunction with Proctorio
- Headsets with microphones for voice chatting

Troubleshooting procedures for educational technologies
- In case of technical difficulties with proctored quizzes and exams, follow the troubleshooting procedures provided to you in the course and inform the instructor.
- For Canvas related questions, use the Help button located in the upper right corner in Canvas to email, chat or call for help. Canvas provides dedicated support to UTH users 24 hours a day, 7 days a week.
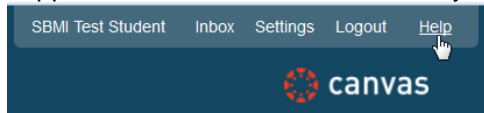
You can direct all other technology related questions to the Distance Education Team (de@uth.tmc.edu). Currently, Distance Education Team is able to provide technical support only during business hours US Central Standard Time. Requests submitted after 5pm CST may take until the next business day to resolve. Please plan accordingly for time critical activities such as quizzes, exams, and submission dates for assignments.

In the online learning realm, trying to do things last minute is a sure way to fail and miss deadlines. It is your responsibility to allocate enough time to complete online course activities on time.

Grading

Grades given are A, B, C, F, or I. Incompletes are given only when situations outside of the student's control occur and the student notifies the faculty in a timely manner. The following evaluation criterion will be used for determining your grade for this course. Letter grades will be assigned based on the percentage of total points received (e.g., 90-100% =A, 80-89%=B, 70-79%=C, <60=F, and I (Incomplete)).   School policy mandates that an Incomplete must be completed by the end of the following semester. An Incomplete that is not completed by the end of the next semester will turn into an F automatically. Refer to the section on Academic Standards, Policies, and Procedures / Grading system in the 2012-2014 catalog for more information.

Your final class grade will largely be based on the results of all the assignments and activities (e.g., online discussions, quizzes, and completion of course project) that are designed to reflect your understanding of the course content. Finishing all the assigned readings, assignments, and activities **on time** will help you to achieve the objectives for this course. Late submissions will incur penalties and affect your final grade

Requirements	Percentage of Total Points
Assignments	15%
Quizzes	15%
Topic presentation	15%
Mid-term exam	20%
Final exam	20%
Term paper	15%
Total	**100%**

Note: a grade of C in graduate school is considered unsatisfactory. Refer to
https://sbmi.uth.edu/current-students/student-handbook/academic-procedures.htm#probation

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Topics

Topics that will be covered in this course during Fall 2015 include the following

Week	Topic	Reading
August 31- September 6	Introduction to public health informatics : history and significance	Chapters 1, 2, and 3
September 7- 13	Public Health informatics: infrastructure and architecture	Chapters 3, 5, and 6
September 14- 20	Public health data source, tools, and information standards	Chapters 7 and 8
September 21- 27	Privacy, confidentiality, security, and ethics	Chapters 9 and 11
September 28- October 4	Informatics in health promotion: introduction	Assigned readings
October 5 – 11	Informatics in health promotion: applications	Assigned readings
October 12 – 18	Evaluation for public health informatics	Chapter 13
October 19-25	Midterm revision session, midterm due **October 25, 11:59 pm**	
October 26 – November 1	Informatics in epidemiology and environmental public health	Chapters 14 and 15
November 2 - 8	Geographic information systems	Chapter 21
November 9 - 15	Policy and project management	Chapter 12
November 16 - 22	Information systems for vital statistics, risk factors, and immunization	Chapter 17, 18, and 19
November 23- 29	Thanksgiving week	Catch up week
November 30- December 6	Decision support and expert systems in public health Public health clinical systems	Chapter 23 and 24
December 7- 13	National and global perspectives: the future of public health informatics	Chapter 29, 31, and 32
December 14-18	Final exam due **December 18, 11:59 pm**	

Note: This list is for guidance only. The week for a particular topic could change during the semester for several reasons.

Student Feedback / Evaluation of Instruction

At the end of the semester, you will be asked to fill out an online "Course and Instructor Evaluation" survey.

> **Instructors do not receive the aggregated results until all grading is done and course grades are submitted.**

> **Instructors do not have access to the identity of the survey participants when they view the survey results.**

Please take time to finish the evaluation survey since it is helpful to evaluate the instruction and provide for revisions of future course offerings.

Your feedback is encouraged throughout the course and is always welcomed.

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Students must have the latest version of their operating system installed including latest security updates and service packs. SBMI recommends installing and using the following anti spyware, malware and virus control software:

- For real time protection:
    - Microsoft Security Essentials
      http://www.microsoft.com/security/pc-security/microsoft-security-essentials.aspx
    - BitDefender Antivirus Free Edition
      http://www.bitdefender.com/solutions/free.html
    - AVG
      http://free.avg.com/
- Other malware removal tools:
    - Malwarebytes Anti-Malware
      https://www.malwarebytes.org/free/
    - Panda Cloud Cleaner
      http://pandacloudcleaner.pandasecurity.com/

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- Personal computer

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- Headsets with microphones for voice chatting

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Policies

Excused Absence on Holy Days

Students who wish to observe a religious holy day that interferes with classes, examinations or completion of assignments, must inform the instructor of each class to be missed and/or of the planned absence(s) not later than the fifteenth day of the semester. The notification must be in writing and may either be delivered by the student personally to each instructor, with receipt of the notification acknowledged and dated by each instructor, or mailed by certified mail, return receipt requested, to each instructor. The full policy can be found at:
http://www.uth.edu/hoop/policy.htm?id=1448072

Academic Honesty

Academic honesty is the cornerstone of the academic integrity of a university. It is the foundation upon which the student builds personal integrity and establishes a standard of personal behavior. Because honesty and integrity are such important factors, you should be aware that failure to perform within the bounds of these ethical standards is sufficient grounds to receive a grade of "F" in this course and be recommended for suspension from the SBMI.

You should submit only your own work unless group work is indicated in your assignment. To demonstrate academic honesty, you should always indicate the use of works other than your own. Plagiarism is prohibited. Remember that most instances of plagiarism can be avoided by simply citing the source for the material that is used and thus indicating that it is not your original material. Plagiarism may include

- words or ideas taken from someone else without acknowledgment
- giving incorrect information about the source
- changing the sequence or structure but using ideas without citation
- not including material in quotes if directly taken from someone else's material and/or copying amounts of other's material and using it in violation of fair use copyright laws

With the advent of the Web and access to materials, the need to guard against using other's material without acknowledgment is especially important. So, when in doubt, cite. Prevention is the best deterrent and thus avoids the academic consequences that may follow.

Per the Exam and Written Paper Monitoring Policy, your submitted work may be subject to evaluation from Turnitin for plagiarism and some courses may require the use of Proctorio, an online proctoring software that will monitor and record you when you take online quizzes and exams.

Refer to the Student handbook Student Conduct and Discipline concerning plagiarism at https://sbmi.uth.edu/current-students/student-handbook/unacceptable-conduct.htm. More information regarding plagiarism and unacceptable conduct may be found at: HOOP Student Conduct and Discipline and http://www.uth.edu/hoop/186-appendix-a.htm. If you have questions or need additional information please let your instructor(s) know.

Copyright Policy

Information on copyright policy issues may be found at: HOOP Classroom and Research use of Copyrighted Material.

Intellectual Property

Information on intellectual property issues may be found at: HOOP Intellectual Property.

All materials presented in a course in Canvas are copyright protected unless otherwise noted.

Course Accommodation

Course accommodations are made in response to individual requests for accommodation. If you need accommodation please let your instructor(s) know. Information on disability issues may be found at: HOOP Disability Accommodation.

If you believe you have a disability requiring an accommodation, please contact Dr. Susan Fenton, Assistant Dean for Academic Affairs at (713) 500-3591 or by email at Susan.H.Fenton@uth.tmc.edu.

For additional information, contact Karla Crabtree, Director of Employee Relations and Equal Opportunity at (713) 500-3193, or by email at Karla.T.Crabtree@uth.tmc.edu.