University of Illinois at Chicago
BHIS 509 Informatics for the Clinical Investigator
Fall '11 B Session
3 Credit Hours
October 17, 2011, ending Dec 9, 2011

Course Instructor

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Course Overview

Course Description

This course provides the foundation of requisite knowledge of computer and healthcare information sciences for the clinical investigator.

Course Objectives

At the conclusion of this course, the student successfully completing BHIS 509 will be able to\

1. Evaluate trends and best practices in informatics for the organization of biomedical and health information. (Addressing national objective 1)
2. Develop protocols utilizing management of information using computer technology (i.e., develop clinical research protocols using informatics methods and tools). (Addressing national objective 2)
3. Assess the effects of technology on medical research, education, and patient care. (Addressing national objective 3)
4. Appraise the essential functions of the electronic health record (EHR) and the barriers to its use (i.e., for both healthcare and research purposes). (Addressing national objective 4)
5. Evaluate the role of health information technology standards in the interoperability of clinical systems, including health IT messaging (i.e., for both healthcare and research purposes). (Addressing national objective 5)
6. Evaluate the quality of patient information available in electronic health record systems (i.e., extract patient information from an electronic health record and do an assessment of its quality). (Addressing national objective 6)
7. Critique medical knowledge through literature searches using advanced electronic techniques. (Addressing national objective 7)
8. Propose roles for bio(medical) informatics in the study design and analyses of high dimensional data in areas, such as genotypic and phenotypic genomics. (Addressing national objective 8)
9. Integrate bio(medical) informatics specialists in the design, development, and implementation of research projects. (Addressing national objective 9)

Course Topics

1. Week 1 Introduction: PubMed; IT vs. Informatics
2. Week 2 Bioinformatics
3. Week 3 Health Informatics
4. Week 4 Clinical Research Informatics: Population Identification, Good Quality Research Protocols
5. Week 5 Research Data Collection
6. Week 6 Ontologies and Standards
7. Week 7 Privacy, Security and Ethics of Clinical Informatics
8. Week 8 Application

Level of Preparation / Prerequisites

Extensive computer use required. Taught only online. A UIC netid is required. Previous knowledge of clinical trials strongly recommended.

Workload

Students are reminded that BHIS 509 is a three-hour, graduate-level course; time commitments of 15 - 20 hours per week should be expected.

Course Activities

Students are encouraged to seek additional information and demonstrations of various applications discussed in this course, available on the WWW.

In order to successfully complete this course, the students will be responsible for

1. Obtaining and completing assigned readings
2. Composing answers, as an individual or in a group, to assigned activities
3. Participation in discussions
4. Timely completion of unit self-assessments
5. Timely completion of unit minute papers and the final course evaluation. Minute papers are one or two questions eliciting your anonymous thoughts about the delivery of each unit.

Texts

The readings will be available either in the Library of the Health Sciences eReserves or on the Course Management site.