CS 544 Health Informatics Syllabus

The syllabus below describes a recent offering of the course, but it may not be completely up to date. For current details about this course, please contact the course coordinator. Course coordinators are listed on the course listing for undergraduate courses and graduate courses.

Text Books

Required
, , 12 papers mentioned in the course schedule below

Week-by-Week Schedule

Week	Topics Covered	Reading	Assignments
1	Introduction to health informatics. Overview of field, relation to bioinformatics.		
2	Collection and flow of health data (including meaningful use and PPACA). Including claims data, clinician-generated data, and information exchange.	Payton et al (2011)	
3	EMRs, PHRs, and data standards (narrative vs. structured data, ontologies).	Rosenbloom et al. (2011), Yamin et al. (2011)	
4	Data use, interpretation (what is a diagnosis really?) and challenges (including data quality).	Cios and Moore (2002)	
5	Managing and using EMR data for research	Botsis et al. (2010), Hripcsak et al. (2009)	Short group presentations on EMR research
6	Methods for evaluation. How can we compare systems and determine if a project is successful? Tutorial on statistical techniques based on student background/needs.		
7	Midterm presentation of case studies.		
8	HIPAA, IRBs, and de-identification. We will discuss the rules and regulations governing health research and, from a practical standpoint, how to preserve privacy when conducting research.	McGraw (2013), Malin (2005)	Write IRB proposal
9	Pharmacovigilance and drug discovery	Tatonetti et al. (2011)	
10	Journal club discussion of recent papers in health informatics		
11	Decision Support	Kawamoto et al (2005), Wadwha et al. (2008)	
12	Public health informatics	Yasnoff et al. (2000)	

Week	Topics Covered	Reading	Assignments
13	Presentation of final projects		
14	Presentation of final projects		