HADM-602
Managing and Analyzing Healthcare Information

Dates:	Time:	Location:
Thu 08/25-12/18/2015	6-8:30 pm	Le Bien 15
Instructor:	**Office Hours:**	**Contact:**
Sonja Streuber	TRF 12-1 pm on Skype (verbalicon) MWF 6:30-7:30 pm 212 Gellersen (sign up)	sonja.streuber@valpo.edu

Introduction

This course walks you through the practice and use of software systems that enable organizing, managing, analyzing, and interpreting data, with emphasis on the types of data required for reporting to federal, state, and local governments, as well as data that drive the decision-making process. You will learn how the core competencies of healthcare informatics can be developed and applied using real-world case studies. You will be exposed to specific concepts related to electronic medical records (EMR), health data and standards, sourcing, and IT investments in healthcare.

Learning Objectives:

Upon completion of the course, you will be able to explain the key information requirements for effective health information management and decision support, including:

- Healthcare information/data management
- Clinical information systems / electronic medical records
- Healthcare information technology architecture
- IT Governance in healthcare organizations
- Health IT software selection
- Meaningful Use
- HITECH and PPACA

Using the materials listed below, this course covers the Body of Knowledge the American Health Information Management Association (AHIMA) has identified for the Registered Health Information Administrator (RHIA) certification. For more information about, and your professional eligibility for, this certification, see http://www.ahima.org/certification/rhia.aspx

Materials

Required: Hoyt, Robert E., Ann Yoshihashi, and Nora Bailey, eds. (2015). *Health Informatics: Practical Guide for Healthcare and Information Technology Professionals*. 6th ed. Lulu Press. ISBN 978-0-9887529-2-4 (eBook) or 978-1-304-79110-8 (paperback). Available through http://informaticseducation.org/

On Reserve:

LaTour, Kathleen, et al. (2013). *Health Information Management: Concepts, Principles, and Practice,* 4th ed. AHIMA Press.

Workload

1. Attendance/ Quizzes (20%): After each session, a 10-question quiz will be available on Blackboard from Thursday 10 pm CST until Saturday 10 pm CST. You will only be able to solve all questions on this quiz if you attend, and contribute to, class sessions. You must complete 10 out of 12 quizzes.

2. Software/ Hardware Demonstration (20%): For this assignment, you will select a technology from the list below that interests you and prepare a 20-minute talk on its current and future state, complete with a PowerPoint slideset (no Prezi, please!) and a demonstration. You may select from the following:

- Electronic Medical Records (EMR)—paid vs. free systems: EPIC, Meditech, MediSoft, Allscripts, AllegianceMD, Dentrix, Eaglesoft, Suzy, artemis, Mitochon Systems, etc.
- Clinical Decision Support Systems (CDSS), automated medical diagnostic systems, incl. Elsevier
- Computerized Physician Order Entry (CPOE)
- Personal Health Records (PHR), including Microsoft HealthVault, myPHR, etc.
- Standard and mobile Patient Monitoring Systems (PMS) incl. iPhone, iPad, and Android apps
- Practice Administration Systems (PAS): CareCloud etc.
- Telemedicine/ Telehealth Technologies
- Health-related Social Networking Portals
- Robotic Applications in Health

The structure of your talk and PowerPoint will be:

1. Summary description of the technology: Manufacturer history, application main features
2. Application architecture (physical or logical)
3. Data security and legal compliance handling
4. If office software: Application licensing/ maintenance cost per year (calculate for an office of 3 physicians at 80 pts each/ wk, with 3,000 registered patients); otherwise flat cost per year
5. Implementation timelines (how long until it runs?)
6. Strengths, weaknesses/ limitations
7. The 2 strongest competitors on the market
8. Demonstration of the application or portal (or picture walkthrough)

3. Group case analysis and presentation (30%): The class will be split into several groups to work on a case study selected from Modern Healthcare's IT Case Study winners (http://www.modernhealthcare.com/section/itcasestudy) or another source. The team will present their analysis, findings, and recommendations for improvement during the Case Study Showcase. Each presentation should be approximately 30 minutes long. A complete draft of the PowerPoint is due Thursday, 12/10/2015, 6 pm CST.

4. Course Final (30%): 100-question multiple choice and short-answer final on all the topics covered in the course. The final will be available on Blackboard for an uninterruptable 120 minute session from 12/17/2015, 6:00 pm CST to 12/17/2015, 8:00 pm CST.

Grading

You can earn up to 1000 points in this course.   Distribution is as shown below:

Component	Points	Notes
Weekly Quiz	20 ea. = 200	Complete the quiz for the week on the Saturday (by 10 pm CST) following the class session for which it is assigned. 10 out of 12 quizzes required.
Demo	200	Please upload the Demo PowerPoint to the Blackboard website before the beginning of the session in which it is due.
Case Study	300	Will be graded on clarity, comprehensiveness of analysis, suggestions for remediation, and interpretation of results.
Course Final	300	100 randomized questions, multiple-choice and short answer.

Letter Grade Conversion:

>93%: A   90-93%: A-   87-90%: B+   83-87%: B   80-83%: B-   77-80%: C+

73-77%: C   70-73%: C-   <70%: F

Valparaiso University Honor Code

All work you submit for any course at Valparaiso University—and in any professional environment—must be your own. You may NOT use anyone else's words (from books, blogs, webpages, magazine articles, etc.) without giving a clear source citation in a footnote. If you are unsure, consult http://www.plagiarism.org/ or the Writing Center.

In addition, you must write out and sign with your full name the following statement on all deliverables submitted for academic credit:

I have neither given nor received, nor have I tolerated others' use of unauthorized aid.

For more information about Valparaiso University's Academic Honor Code, case review cycles, and potential penalties, please refer to http://www.valpo.edu/student/honorcouncil/index.php

Diversity and Inclusion

Valparaiso University aspires to create and maintain a welcoming environment built on participation, mutual respect, freedom, faith, competency, positive regard, and inclusion. This course will not tolerate language or behavior that demeans members of our learning community based on age, ethnicity, race, color, religion, sexual orientation, gender identity, biological sex, disabilities (visible and invisible), socio-economic status, or national origin. The success of this class relies on all students' contribution to an anti-discriminatory environment where everyone feels safe, welcome, and encouraged to question, to engage, to challenge, to explore, and ultimately, "to embark on a rewarding personal and professional journey" (President Heckler).

Disability Support Services

As part of its mission for its students, Valparaiso University has developed a nondiscrimination policy which identifies its intention to provide a safe and tolerant environment for all, including those with disabilities. Please contact Sherry DeMik, Director of Disability Support Services, at 6956, or Zebediah Hall, Disability Support Services Coordinator, at 6496, if you believe you have a disability that might require a reasonable accommodation in order for you to perform as expected in this class. The office

will work with you and me directly to make sure you receive any reasonable accommodation needed as the result of a disability. More information is on the Disability Support Services website at http://www.valpo.edu/disabilityss/

Academic Support

To get help, use the Academic Success Center (ASC) online directory (valpo.edu/academicsuccess) or contact the ASC (academic.success@valpo.edu) to help point you in the right direction for academic support resources for this course. Valpo's learning centers offer a variety of programs and services that provide group and individual learning assistance for many subject areas. These learning centers include:

- Graduate Tutoring Lab: Serves the academic needs of Graduate students – tutors offer suggestions on organization of papers, assist in research and citations, and help in understanding difficult assignments. Additional one on one tutoring is also available.
- Writing Center: Primarily serves the needs of undergraduate students, but is also available for Graduate students. Writing Consultants provide proofreading and editing assistance for papers and assignments.
- Language Resource Center: Provides tutoring and other resources for language study as well as opportunities for authentic language use through conversation programs, enrichment activities and other exchanges.

Class Cancellations

Notifications of class cancellations will be made through Blackboard with as much advance notice as possible. It will be both posted on Blackboard and sent to your Valpo e-mail address. If you don't check your Valpo e-mail account regularly or have it set-up to be forwarded to your preferred e-mail account, you may not get the message. Please check Blackboard and your Valpo e-mail (or the e-mail address it forwards to) before coming to class.

Please check Blackboard for information about updates to the attached course schedule, office hours, and other administrative changes.

Schedule

#	Date	Topic	Reading	Due in Class
1	08/27	Overview of Health Informatics (1) Healthcare Data, Information, and Knowledge (2)	Hoyt Chapter 1, 2 Meaningful Use Case Studies: http://www.healthit.gov/providers-professionals/meaningful-use-case-studies	
2	09/03	Healthcare Data Analytics (3)	Hoyt Chapter 3	
3	09/10	Electronic Health Records (4)	Hoyt Chapter 4 "How to Implement EHRs" http://www.healthit.gov/providers-professionals/ehr-implementation-steps/step-1-assess-your-practice-readiness EHR Demo: http://www.practicefusion.com	**Team Composition** **Case Study Selection**
4	09/17	Health Information Exchange (5) Health Information Privacy and Security (8)	Hoyt Chapter 5, 8 "Connecting Health Care for the Nation"—HealthIT.gov paper HIE Case Studies: http://www.healthit.gov/providers-professionals/health-information-exchange-case-studies	**DEMO SLOT:** 1. EMR 2. PHR 3. Portals
5	09/24	Health Information Privacy and Security (8) Part 2 Data Standards (6) Architectures of Information Systems (7)	Hoyt Chapter 6,7, 8 Boston CareGroup: "All Systems Down," http://www.cio.com.au/article/65115/all_systems_down/ The CareGroup Outage: http://geekdoctor.blogspot.com/2008/03/caregroup-network-outage.html	**DEMO SLOT:** 1. PAS 2. EMR
6	10/01	Consumer Health Informatics (10) Mobile Technology and mHealth (11)	Hoyt Chapter 10, 11 Lee, Jaimy, "Preventing readmissions: Is there an app for that?" http://search.proquest.com.ezproxy.valpo.edu/docview/1545649853/79E9B5126F384469PQ/16?a	**DEMO SLOT:** 1. PHR 2. Portals 3. Telehealth

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7	10/08	Online Medical Resources (12) Medical Information Retrieval (13) e-Research (22)	Hoyt Chapter 12, 13, 22 Dave Debronkart Discusses How E-Patient Saved His Life http://www.healthit.gov/profiles/stage4-kidney-cancer-survivor	Case Study Draft 1
8	10/15	Evidence-Based Medicine and Clinical Practice Guidelines (14)	Hoyt Chapter 14 Clinical Decision Support Systems: http://www.informationweek.com/healthcare/clinical-systems/10-innovative-clinical-decision-support/232300511	**DEMO SLOT:** CDSS
	10/22	**FALL BREAK**	**FALL BREAK**	
9	10/29	Disease Management and Disease Registries (15) Public Health Informatics (21)	Hoyt Chapter 15, 21 Reducing Vaccine Preventable Disease through Immunization Registries http://www.healthit.gov/providers-professionals/michigan-department-of-community-health-case-study Multistate outbreak of Hep A: http://www.cdc.gov/hepatitis/Outbreaks/2013/A1b-03-31/index.html FDA Traceback and Trace-Forward http://www.state.in.us/isdh/25538.htm	**DEMO SLOT**: HIE Disease Registry Case Study Draft 2
10	11/05	Quality Improvement Strategies (16)	Hoyt Chapter 16 "Faster Turnaround Time," "Quality Intervenes at a Hospital," "Toward Error-Free Lab Work" (on Blackboard)	**DEMO SLOT:** 1. CPOE 2. ERM
11	11/12	Patient Safety and HIT (17) Telemedicine (18)	Hoyt Chapter17, 18	**DEMO SLOT**: 1. Telehealth/ Telemed 2. Robotics Case Study Draft 3
12	11/19	Telemedicine (18)	Hoyt Chapter 18, 19	**DEMO SLOT**:

		Medical Imaging Informatics (19)		1. Telehealth/ Telemed 2. Robotics 3. Portals
	11/26	**THANKSGIVING BREAK**	**THANKSGIVING BREAK**	
13	12/03	Bioinformatics (20) Health Informatics Ethics (9)	Hoyt Chapter 20, 9	**DEMO SLOT**: 1. Telehealth/ Telemed 2. Portals
14	12/10	Course Summary and Case Study Showcase		**Completed Case Study**
FIN AL	12/17	FINAL EXAM	FINAL EXAM opens 12/17/14 06:00 pm CST, closes 12/17/14 08:00 pm CST	