HMGT 6323 & MIS 6317
Online Course Syllabus

Course Information

Course Number/Section HMGT 6323.OW1 Online course (cross listed with MIS 6317)
Course Title Healthcare Informatics
Term Spring 2018

Professor Contact Information

Professor Kirk Kirksey
Office Phone 972-883-2736
Email Address KAK130030@utdallas.edu
Office Location <TBD>
Office Hours <TBD> and by Appointment.

About the Instructor

I have had a 30+ year career in healthcare information systems. I have worked as a software engineer, network designer, technology manager, and consultant in healthcare organizations in the United States and Saudi Arabia. I recently retired as a Chief Information Officer (CIO) for the University of Texas Southwest Medical Center. I this capacity, I had responsibility for over 300 clinical information systems, administrative applications, and data communications network. The department I directed had a $100M technology budget and over 600 employees.

As an adjunct Professor, I have taught in UTD's Physician Alliance for Medical Management Education (AMME) program for over ten years. I teach undergraduate and graduate-level courses at UTD, and am a frequent guest lecturer on healthcare information systems. I have collaborated with Dr. Indranil Bardhan on several research projects examining healthcare quality and cost of care.

Course Pre-requisites, Co-requisites, and/or Other Restrictions

None

This is an approved core course for the M.S. degree in Healthcare Management. It is also an approved elective course for the M.S. degree in Information Technology Management and the MBA degree.

Course Description

According to the U.S. National Library of Medicine, "health informatics is the interdisciplinary study of the design, development, adoption, and application of IT-based innovations in healthcare services delivery, management, and planning".

Building on this foundation, Healthcare Informatics (HI) is the use of digital information from a variety of technologies and disciplines to create processes leading to reduced medical errors, lower healthcare costs, and improved treatment quality. In other words, healthcare informatics and analytics seeks to convert data generated by clinical and non-clinical technologies into useful information. This information is used to create evidence-based knowledge, and this knowledge, in turn, leads to active interventions designed to improve patient care and lower healthcare costs.

This course has been designed to explore the healthcare information technology planning and management issues associated with decision making in healthcare organizations. IT provides a framework to understand the types of information systems prevalent in healthcare organizations, evaluate specific strategies related to healthcare IT investments, and understand the ramifications of health data standards and privacy concerns on information management policy. In this course, 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 system architecture, electronic medical records (EMR), health data and standards, sourcing, and IT investments in healthcare.

Upon completion of the course, you should be able to explain the key information requirements for effective health information management and decision support, plan and develop the governance and oversight requirements of healthcare IT projects, understand the specification and selection process of healthcare projects, and apply these competencies to real-world problems. Major topics include:

- Common healthcare information architectures
- Healthcare information/data management
- The integration of healthcare information systems
- Clinical information systems / electronic medical records
- Healthcare information privacy and security
- IT Governance in healthcare organizations
- Key processes and management of healthcare IT
- Meaningful Use
- HITECH and PPACA

Student Learning Objectives/Outcomes

- Understand healthcare technology environments commonly found in organizations today
- Develop a better understanding of current and emerging issues in healthcare information technology management.
- Understand the challenges of healthcare systems integration and inter-operability
- Develop an understanding of meaningful use and its implications for clinical and administrative purpose in healthcare management
- Understand emerging data and analytics requirements in healthcare

- Develop appropriate performance measurement and reporting mechanisms to plan and evaluate the impact of IT initiatives in healthcare settings.

Required Textbooks and Materials

Text: "Health Care Information Systems" by Karen Wager, Frances Lee, and John Glaser. Josey-Bass Publishers A Wiley Brand. Fourth Edition, 2017. ISBN-13: 978-1119337188.
.

Readings Packet: The instructor will supplement course materials with other readings via email or web links. No need for purchase.

Required Materials

Visit eLearning for all course-related information including syllabus, lecture notes, self-quizzes, and assigned discussion problems.

Textbooks and some other bookstore materials can be ordered online through Off-Campus Books http://www.offcampusbooks.com or the UT Dallas Bookstore http://www.bkstr.com/texasatdallasstore/home. They are also available in stock at both bookstores.

Technical Requirements

In addition to a confident level of computer and Internet literacy, certain minimum technical requirements must be met to enable a successful learning experience. Please review the important technical requirements http://www.utdallas.edu/elearning/students/gettingstarted.html#techreqs on the Getting Started with eLearning webpage http://www.utdallas.edu/elearning/students/getting-started.html.

Course Access and Navigation

The course can be accessed using the UT Dallas NetID account at: https://elearning.utdallas.edu. Please see the course access and navigation http://www.utdallas.edu/elearning/students/getting-started.html#courseaccessandnav section of the site for more information.

To become familiar with the eLearning tool, please see the Student eLearning Tutorials http://www.utdallas.edu/elearning/students/eLearningTutorialsStudents.html.
UT Dallas provides eLearning technical support 24 hours a day/7 days a week. The eLearning Support Center http://www.utdallas.edu/elearninghelp services include a toll free telephone

number for immediate assistance (1-866-588-3192), email request service, and an online chat service.

Communication

This eLearning course has built-in communication tools which will be used for interaction and communication. Some external communication tools such as regular email and a web conferencing tool may also be used during the semester. For more details, please see communication tool information.

Interaction with Instructor: The instructor will communicate with students mainly using the Announcements and Discussions tools. Students may send personal concerns or questions to the instructor using the course email tool. The instructor will reply to student emails or Discussion board messages within 3 working days under normal circumstances.

Distance Learning Student Resources

Online students have access to resources including the McDermott Library, Academic Advising, The Office of Student Accessibility, and many others. Please see the eLearning Current Students page http://www.utdallas.edu/elearning/students/cstudents.htm for details.

Server Unavailability or Other Technical Difficulties

The University is committed to providing a reliable learning management system to all users. However, in the event of any unexpected server outage or any unusual technical difficulty which prevents students from completing a time sensitive assessment activity, the instructor will provide an appropriate accommodation based on the situation. Students should immediately report any problems to the instructor and also contact the online eLearning Help Desk http://www.utdallas.edu/elearninghelp. The instructor and the eLearning Help Desk will work with the student to resolve any issues at the earliest possible time.

Assignments & Academic Calendar

WEEK	UNIT	TOPIC	ASSIGNED READINGS
1	**I. Health Care Information Technology Today**	• Definitions • Brief History of HIT • HIT Domains Today • The HIT Landscape Today	• Chapter 1 • Lecture Notes
2	**II. Healthcare Architecture, Data, and Information Systems**	• Common Applications Architecture • Before and After the Electronic Medical Record • Legal Aspects of managing health information • Certification and accreditation (JCAHO)	• Chapter 2 and 3 • Lecture Notes
3	**III. Reimbursement Reform and Population Health as an Healthcare Informatics Driver**	• Assuming Risk • Populations, Bundles, and ACOs • New Technology Requirements	• Chapter 4 • Lecture Notes **HW 1 due Jan 28**
4	**IV. HITECH, PPACA, and The Rise of the Electronic Medical Record**	• HITECH and the EMR Electronic • EMRs Large and Small • Meaningful Use Reporting • HIT Data Standards	• HITECH Reading • Chapter 11 • Lecture Notes
5	**V. EMR Software: Practice Fusion**	• Demonstrate EMR software usage for clinical workflow	**HW2 due: Feb. 11**

6	**VI. Building a Data Integration Architecture – A Thought Experiment. What Would Dr. Snow Do?**	• Components of an Information Architecture • Data Transformation • Data Types	• Lecture Notes
7	**MID-TERM EXAM (ON ELEARNING): Due February, 25 2018**		
8	**VII. An Overview of Healthcare Analytics**	• Types of Analytics • Good Dashboards. Bad Dashboards • Artificial Intelligence • Visual presentation of information	• Tufte Reading • Lecture Notes
9	**VIII. Health IT Systems Acquisition**	• Acquisition Lifecycle • Acquisition Governance • Outsourcing Considerations • Total Cost of Ownership	• Chapter 5 • Lecture Notes
10.	**IX. Health Informatics Governance**	• Foundations of IT governance • Technology Governance vs Data Governance • Data Stewards and Custodians • Business Rules • IT and Business Alignment	• Chapter 13 • Lecture Notes
11.	**X. HIT Strategic Planning**	• Planning Methodology • Strategic Plan Deliverables • IT Alignment	• Chapter 12 • Lecture Notes

12.	**XI. Organizing IT Services**	• Systems implementation process • Project plans and planning • Resource allocation • Accountability and roles	• Chapter 6 • Lecture Notes **HW3 due March 25**
13.	**XII. Technology Buzzwords and Trends**	• Big Data • Block Chains • Cloud Computing • Ubiquitous Connectivity • Gartner Healthcare and Technology hype cycles	• Readings to be assigned.
14.	**XIII. Health IT Privacy & Security**	• Healthcare Security Challenges • HIPAA Rules and Changes	Chapter 9 Lecture Notes
15.	**XIV. New Health Information Systems for Population Health**	• Infrastructure services • Next generation EMR • ACO leakage	Lecture Notes
16	**Group Case Projects Due: Sunday, April 29, 2018**		
17	**TAKE-HOME FINAL EXAM DUE DATE: TUESDAY, MAY 7, 2018 ON OR BEFORE 9PM Central Time. SUBMIT VIA ELEARNING**		

Assignments are due by the last date of the time window during which it is assigned.

Grading Policy:

The following grading policy will be adopted for the class: **A, A-, B+, B, B-, C+, C, C-, P (pass), F (Fail)**. The weighted average score (based on the above) table will be used to determine your grades at the end of the course. There is no makeup policy for exams or HW/case assignments. You forfeit the grade for any assignments/exams that you miss.

Course grades will be based on the following components:

1. **Homework Assignments (30%)**: I will assign three homework assignments throughout the course of the semester. Each homework assessment will be available only during the specific time window indicated on the academic calendar (pages 7-8), and is due by the last date of the time window. Each HW assignment should be done individually.

2. **Collaborative Group Case Presentation (20%)**: This project will be the required collaborative project. The class will be divided into groups (group size will depend on class enrollment). Each group is required to submit their written case analysis by the required due date via eLearning. Each group member should contribute actively to the group. Each group will be assigned to one case from the list below (see heading titled "Group Cases"). Submission date is April 29, 2018.

   Cases will be available via an online Course Pack on the Harvard Business Publishing web site. Detailed instructions for preparing and submitting group cases will be available when cases are assigned. The Instructor will make the group case assignments no later than January 28, 2018. PLEASE NOTE: Each student will be required to purchase access rights the case assigned to his or her group. Price per case is approximately $4.50.

   Once cases are assigned, I will be available to meet, one time for one hour, with each group to answer question and/or offer guidance concerning the group's the case presentation. This meeting is entirely optional.

3. **Mid-term Exam (25%)**: There will be an **online** mid-term exam from February 21 to February 25, 2018 (as shown on the academic calendar) and can be accessed via eLearning. Students will be tested on the course material taught until that time – this is an individual exam.

4. **Final Exam (25%)**: The final exam will be an **individual** exam during finals week. The exam will be a combination of multiple choice and short essay question. Exam content will covert course material taught through online lectures, weekly readings from the text, and assigned readings.

Accessing Grades

Students can check their grades by clicking "My Grades" under Course Tools after the grade for each assessment task is released.

Course Policies

Course Format

Classes will include a mixture of recorded lectures and online discussions (on eLearning). The textbook and additional readings will provide the basis for lectures on various healthcare informatics topics. Students will be evaluated based on a mid-term exam, final exam, group case analysis, software assignment, and assigned homework questions.

Lecture notes will be provided electronically via eLearning. It is your responsibility to print and bring a copy to class. Lecture notes are meant only for students who register for this course will not be provided to students who are not registered.

Prerequisites

There are no prerequisites for this course. However, it is restricted to UTD graduate students.

Collaborative Group Case Project

The class will be divided into teams, and each team will be assigned one case. Final group assignment for each student will be organized in eLearning once class enrollment is finalized. Students will be responsible for organizing and managing project assignments. The instructor will assign each group one case.

Cases will be available via an online Course Pack on the Harvard Business Publishing web site. Detailed instructions for preparing and submitting group cases will be available when cases are assigned. The Instructor will make the group case assignments no later than January 27, 2018. PLEASE NOTE: Each student will be required to purchase access rights the case assigned to his or her group. Price per case is approximately $4.50.

Once cases are assigned, I will be available to meet, one time for one hour, with each group to answer question and/or offer guidance concerning the group's the case presentation. This meeting is entirely optional.

Make-up exams

None

Extra Credit / Special Assignments

None

Late Work

Not allowed unless it is a medical emergency.

Turnitin

Turnitin is a software product used for checking for insuring the integrity of a written document by checking for plagiarism. When appropriate, all written work will be reviewed by Turnitin.

Class Participation

Students are required to login regularly to the online class site. The instructor will use the tracking feature in eLearning to monitor student activity. Students are also required to participate in all class activities such as discussion board activities, classroom case discussions, and group projects.

Comet Creed

This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

"As a Comet, I pledge honesty, integrity, and service in all that I do."

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus.

Please go to http://go.utdallas.edu/syllabus-policies for these policies.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.