Course Syllabus
HMGT 6327: Information and Knowledge Management in Healthcare
School of Management
The University of Texas at Dallas

Course Information

Course
Course Number/Section HMGT 6327
Course Title Information and Knowledge Management in Healthcare
Term and Dates Spring 2013; Saturday 10am – 12:45pm

Professor Contact Information
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Office Location SOM 3.414
Office Hours Wednesdays 5 – 6:30pm; by prior appt. and email at other times

About the Instructor
I am an Associate Professor in the School of Management at the University of Texas at Dallas. I teach graduate-level courses in the MBA and MS programs at the School of Management, as well as in the Physician’s Alliance for Medical Management Education (AMME) program. I have several years of management consulting experience, most recently as a Principal with PricewaterhouseCoopers Consulting. My research focuses on the role of health IT on the quality and cost of healthcare delivery, and my research has been funded by the UT Southwestern Medical School in Dallas.

Course Pre-requisites, Co-requisites, and/or Other Restrictions
None

This is a required course for the Graduate Certificate in Healthcare IT and an approved elective course for the M.S. degree in Healthcare Management and the M.S. degree in Information Technology Management and the MBA degree. The course is ideally suited to students who wish to focus on careers in the healthcare industry as health IT analysts, policy analysts, systems analysts, managers or administrators, or healthcare consultants, who wish to develop a better understanding of healthcare information systems.

Course Description
This course has been designed as an interactive, experiential course in which students will utilize hands-on, practice-oriented opportunities to learn the core components of
clinical information systems used by major health care providers in the United States. Students will learn concepts related to the use of electronic medical record (EMR) software, using EPIC’s EMR as an illustrative example. An essential aspect of the course will be a lab-based component in which students will follow guided exercises and scenarios to work with leading EMR software. The course will include a mix of classroom lectures, lab-based exercises, discussions, and guest lectures by senior healthcare managers and executives. The pre-requisite for this class is “HMG 6323: Healthcare Informatics.”

Major topics in this course include:
- Electronic Health Records
- Clinical workflows
- Clinical documentation
- Hospital administrative information systems and workflows
- Clinical decision support systems
- Meaningful use reporting and PPACA
- Health information exchanges

Student Learning Objectives/Outcomes

Students will understand the core concepts and functionalities associated with an EMR system (EPIC), including its purpose, how it supports clinical information workflows in a paperless environment, and its interconnectivity with other clinical and business systems. Specific learning objectives include:
- Develop a strong understanding of clinical workflows in electronic medical record software, specifically ambulatory, inpatient, patient registration and scheduling, and billing areas.
- Develop an understanding of Stage I and II meaningful use and its implications for clinical and administrative reporting.
- Understand the requirements for clinical decision support systems and analytics to support effective knowledge management in health care, and
- Develop an understanding of the design and development of health information exchange.

Required Textbooks and Materials

There is no required textbook for this course. The instructor will provide lecture notes as well as supplementary readings and cases.

Required Materials

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

Textbooks and some other bookstore materials can be ordered online through Off-Campus Books or the UTD Bookstore. They are also available in stock at both bookstores.
Course Policies

Make-up exams
None

Extra Credit
None

Late Work
Not allowed unless it is a medical emergency.

Computers in Class
Students are forbidden to use laptops and other personal devices (tablets, iPads, cell phones) during class, except during lab sessions. Violation of this policy will result in one warning followed by a loss of 5 points on the overall course grade for each violation.

Class Participation
Students are required to login regularly to the online class site on eLearning. 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 classroom discussions, and group projects.

Course Format

Classes will include a mixture of lectures, case discussions, lab lessons, guest lectures, and class presentation by students. The lecture notes and readings articles will provide the basis for lectures on various healthcare informatics topics. Students will be evaluated based on assigned homework questions, participation in discussion forums, group case analysis and presentation, in-class participation, and a final exam.

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. Students are expected to come prepared for the assigned readings prior to class. Occasionally, I will invite senior executives (CEOs, CIOs) as guest speakers from leading healthcare organizations to lecture on specific topics related to healthcare informatics and discuss specific applications within their organizations.

Prerequisites

The pre-requisite for this class is “HMG 6323 / MIS 6317: Healthcare Informatics”. It is restricted to UTD graduate students and students who are enrolled in the Graduate Certificate in Healthcare IT.
Student Assessments

Grading: The course grade will be based on the following components:

1. **Class participation (15%)**: You are expected to prepare beforehand for each class, participate actively in lab sessions, discuss assigned readings, and actively contribute to the learning experience of the class. Attendance will be taken in each class, starting in the 2nd week.

2. **Homework (30%)**: I will assign several homework questions throughout the course of the semester. Students are expected to provide their homework answers individually on four homework assignments. Each HW assignment will count toward 5% of the grade, and will involve an exercise related to clinical workflow on the EPIC software.

   The fifth HW assignment will be a group exercise related to the application of Healthcare Analytics to real-world healthcare data. Students will be organized into groups, and each group will make one submission which will count toward 10% of the grade.

3. **Midterm Exam (25%)**: Each student will be assigned a take-home midterm exam. The exam will test your proficiency in EpicCare Inpatient and EpicCare Ambulatory from the perspective of multiple user roles (e.g., Provider, Nurse, Scheduler, etc.). Each student will submit their analyses to the Instructor before the next class.

4. **Final Exam (30%)**: The final exam will be an individual **take-home** exam during finals week. Students will be tested on the course material taught through lectures, readings, lab exercises and class discussions.

Group Assignments

Students are expected to organize themselves into teams and communicate their team composition to the instructor **no later than the third week of the semester**. The instructor may also use a group sign-up sheet to form groups for group assignments or projects. A private discussion area will be set up on the discussion board for internal group communications.

Precautions to Protect EPIC’s (EMR software vendor) Rights:

1. Students are required to sign non-disclosure agreements to use the EPIC software in the class and/or lab exercise.

2. Students should recognize the proprietary nature of the software and are cautioned against inappropriate use.

3. Student access would be limited to end-user access only; no build information or other views will be allowed or provided.
Discussion Forum

The instructor will assign discussion questions to the class periodically during the course of the semester. These questions will be discussed in class and will count toward the “Class Participation” grade.

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.

Accessing Grades

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

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 and the web browser configuration information.

Course Access and Navigation

This course was developed using a web course tool called eLearning. It is to be delivered entirely online. Students will use their UTD NetID account to login to the course through UTD Galaxy: http://galaxy.utdallas.edu or directly at http://elearning.utdallas.edu. Please see more details on course access and navigation information.

To get started with an eLearning course, please see the Getting Started: Student eLearning Orientation.

UTD provides eLearning technical support 24 hours a day/7 days a week. The services include a toll free telephone number for immediate assistance (1-866-588-3192), email request service, and an online chat service. The UTD user community can also access the support resources such as self-help resources and a Knowledge Base. Please use this link to access the UTD eLearning Support Center: http://www.utdallas.edu/elearninghelp.

Communications

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.

Another communication tool available to students is live voice chat in the 3D virtual world of Second Life. Instructions for accessing the UTD SOM Island in Second Life can be found at http://som.utdallas.edu/somResources/eLearning/faculty/secondLife.php.

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.

Student Resources

The following university resources are available to students:

UTD Distance Learning:  http://www.utdallas.edu/oee/distance/students/cstudents.htm

McDermott Library: Distance Learners (UTD students who live outside the boundaries of Collin, Dallas, Denton, Rockwall, or Tarrant counties) will need a UTD-ID number to access all of the library’s electronic resources (reserves, journal articles, ebooks, interlibrary loan) from off campus. For UTD students living within those counties who are taking online courses, a Comet Card is required to check out materials at the McDermott Library. For more information on library resources go to http://www.utdallas.edu/library/distlearn/dist.htm.

Scholastic Honesty

The University has policies and discipline procedures regarding scholastic dishonesty. Detailed information is available on the UTD Judicial Affairs web page. All students are expected to maintain a high level of responsibility with respect to academic honesty. Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. Since such dishonesty harms the individual, all students and the integrity of the University, policies on scholastic dishonesty will be strictly enforced.
Major Course Modules

I. Electronic Medical Records & Electronic Health Records
   The major areas of discussion will include the following core topics:

   a. An Overview of the EHR
      i. User Roles, workflow in EHR software
      ii. Complexity of Integrated Health IT Systems
      iii. The Benefits and Challenges of System Customization and Configurability

   b. Order Entry Workflows
      i. Patient Scheduling Systems (ADT / EPIC)
      ii. Outpatient (EpicCare Ambulatory module)
      iii. Inpatient (EpicCare Inpatient module)
      iv. Recap of major EPIC clinical modules and functionality

   c. Clinical Documentation
      i. Information entry across EMR applications, role of interface engine
      ii. Provider Documentation (EpicCare Inpatient and Ambulatory)
      iii. Documentation Requirements for JCAHO
      iv. Best Practices: KLAS Research

II. Clinical Decision Support
   a. Information Processing for CDSS; Best practice Alerts
   b. Knowledge Management Applications in Healthcare
   c. Implications for Meaningful Use Practice & Reporting
   d. Healthcare Analytics – Examples and Exercises

III. Health Information Exchange
   a. HIE Architecture, Standards
   b. Privacy and Security of Patient Data
   c. Database Functionality
   d. Business Value (clinical and administrative) and Costs
   e. Organizational and Regulatory Implications

IV. Hospital Administrative Information Systems
Course Evaluation

As required by UTD academic regulations, every student must complete an evaluation for each enrolled course at the end of the semester. An online instructional assessment form will be made available for your confidential use.

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University Policies

Student Conduct & Discipline

The University of Texas System and The University of Texas at Dallas have rules and regulations for the orderly and efficient conduct of their business. It is the responsibility of each student and each student organization to be knowledgeable about the rules and regulations which govern student conduct and activities. General information on student conduct and discipline is contained in the UTD publication, A to Z Guide, which is provided to all registered students each academic year.

The University of Texas at Dallas administers student discipline within the procedures of recognized and established due process. Procedures are defined and described in the Rules and Regulations, Board of Regents, The University of Texas System, Part 1, Chapter VI, Section 3, and in Title V, Rules on Student Services and Activities of the university’s Handbook of Operating Procedures. Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations (SU 1.602, 972/883-6391).

A student at the university neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to obey federal, state, and local laws as well as the Regents’ Rules, university regulations, and administrative rules. Students are subject to discipline for violating the standards of conduct whether such conduct takes place on or off campus, or whether civil or criminal penalties are also imposed for such conduct.

Academic Integrity

The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrate a high standard of individual honor in his or her scholastic work.

Scholastic dishonesty includes, but is not limited to, statements, acts or omissions related to applications for enrollment or the award of a degree, and/or the submission as one’s own work or material that is not one’s own. As a general rule, scholastic dishonesty involves one of the following acts: cheating, plagiarism, collusion and/or falsifying academic records. Students suspected of academic dishonesty are subject to disciplinary proceedings.

Plagiarism, especially from the web, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the university’s policy on plagiarism.
Email Use

The University of Texas at Dallas recognizes the value and efficiency of communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of each individual in an email exchange. The university encourages all official student email correspondence be sent only to a student’s U.T. Dallas email address and that faculty and staff consider email from students official only if it originates from a UTD student account. This allows the university to maintain a high degree of confidence in the identity of all individual corresponding and the security of the transmitted information. UTD furnishes each student with a free email account that is to be used in all communication with university personnel. The Department of Information Resources at U.T. Dallas provides a method for students to have their U.T. Dallas mail forwarded to other accounts.

Withdrawal from Class

The administration of this institution has set deadlines for withdrawal of any college-level courses. These dates and times are published in that semester's course catalog. Administration procedures must be followed. It is the student's responsibility to handle withdrawal requirements from any class. In other words, I cannot drop or withdraw any student. You must do the proper paperwork to ensure that you will not receive a final grade of "F" in a course if you choose not to attend the class once you are enrolled.

Student Grievance Procedures

Procedures for student grievances are found in Title V, Rules on Student Services and Activities, of the university’s *Handbook of Operating Procedures*.

In attempting to resolve any student grievance regarding grades, evaluations, or other fulfillments of academic responsibility, it is the obligation of the student first to make a serious effort to resolve the matter with the instructor, supervisor, administrator, or committee with whom the grievance originates (hereafter called “the respondent”). Individual faculty members retain primary responsibility for assigning grades and evaluations. If the matter cannot be resolved at that level, the grievance must be submitted in writing to the respondent with a copy of the respondent’s School Dean. If the matter is not resolved by the written response provided by the respondent, the student may submit a written appeal to the School Dean. If the grievance is not resolved by the School Dean’s decision, the student may make a written appeal to the Dean of Graduate or Undergraduate Education, and the deal will appoint and convene an Academic Appeals Panel. The decision of the Academic Appeals Panel is final. The results of the academic appeals process will be distributed to all involved parties.

Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations.
Incomplete Grade Policy

As per university policy, incomplete grades will be granted only for work unavoidably missed at the semester’s end and only if 70% of the course work has been completed. An incomplete grade must be resolved within eight (8) weeks from the first day of the subsequent long semester. If the required work to complete the course and to remove the incomplete grade is not submitted by the specified deadline, the incomplete grade is changed automatically to a grade of F.

Disability Services

The goal of Disability Services is to provide students with disabilities educational opportunities equal to those of their non-disabled peers. Disability Services is located in room 1.610 in the Student Union. Office hours are Monday and Thursday, 8:30 a.m. to 6:30 p.m.; Tuesday and Wednesday, 8:30 a.m. to 7:30 p.m.; and Friday, 8:30 a.m. to 5:30 p.m.

The contact information for the Office of Disability Services is:
The University of Texas at Dallas, SU 22
PO Box 830688
Richardson, Texas 75083-0688
(972) 883-2098 (voice or TTY)

Essentially, the law requires that colleges and universities make those reasonable adjustments necessary to eliminate discrimination on the basis of disability. For example, it may be necessary to remove classroom prohibitions against tape recorders or animals (in the case of dog guides) for students who are blind. Occasionally an assignment requirement may be substituted (for example, a research paper versus an oral presentation for a student who is hearing impaired). Classes enrolled students with mobility impairments may have to be rescheduled in accessible facilities. The college or university may need to provide special services such as registration, note-taking, or mobility assistance.

It is the student’s responsibility to notify his or her professors of the need for such an accommodation. Disability Services provides students with letters to present to faculty members to verify that the student has a disability and needs accommodations. Individuals requiring special accommodation should contact the professor during office hours.

Religious Holy Days

The University of Texas at Dallas will excuse a student from class or other required activities for the travel to and observance of a religious holy day for a religion whose places of worship are exempt from property tax under Section 11.20, Tax Code, Texas Code Annotated.

The student is encouraged to notify the instructor or activity sponsor as soon as possible regarding the absence, preferably in advance of the assignment. The student, so excused, will be allowed to take the exam or complete the assignment within a reasonable time after the absence: a period equal to the length of the absence, up to a maximum of one week. A student
who notifies the instructor and completes any missed exam or assignment may not be penalized for the absence. A student who fails to complete the exam or assignment within the prescribed period may receive a failing grade for that exam or assignment.

If a student or an instructor disagrees about the nature of the absence [i.e., for the purpose of observing a religious holy day] or if there is similar disagreement about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may request a ruling from the chief executive officer of the institution, or his or her designee. The chief executive officer or designee must take into account the legislative intent of TEC 51.911(b), and the student and instructor will abide by the decision of the chief executive officer or designee.

**Off-Campus Instruction and Course Activities**

Off-campus, out-of-state, and foreign instruction and activities are subject to state law and University policies and procedures regarding travel and risk-related activities. Information regarding these rules and regulations may be found at the website address given below. Additional information is available from the office of the school dean. (http://www.utdallas.edu/BusinessAffairs/Travel_Risk_Activities.htm)

*The course modules described in the syllabus are approximate and subject to change at the discretion of the Professor based on the course progress.*

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