Course Syllabus
HMGT 6323 & MIS 6317: Healthcare Informatics
School of Management
The University of Texas at Dallas

Course Information

Course
Course Number/Section	HMGT 6323 (cross listed with MIS 6317)
Course Title	Healthcare Informatics
Term and Dates	Spring 2012

Professor Contact Information
Professor	Indranil Bardhan
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Office Location	SOM 3.414
Office Hours	Wednesday 5-6pm; 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 an approved <u>core</u> course for the M.S. degree in Healthcare Management. It is also an approved <u>elective</u> course for the M.S. degree in Information Technology Management and the MBA degree.

Course Description

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 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:

- 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

Student Learning Objectives/Outcomes

- Develop a better understanding of current and emerging issues in healthcare information technology management.
- Develop an understanding of meaningful use and its implications for clinical and administrative purpose in healthcare management
- Develop an understanding of the IT architecture for healthcare information management, including sourcing, security and governance decisions.
- Develop appropriate performance measurement and reporting mechanisms to plan and evaluate the impact of IT initiatives in healthcare settings.

Required Textbooks and Materials
Text: "Managing Health Care Information Systems" by Karen Wager, Frances Lee, and John Glaser. Josey-Bass Publishers. Second Edition, 2009. ISBN 978-0-470-38780-1.

The instructor will supplement course materials with other readings occasionally. The instructor will assign individual and group cases throughout the class, and requests students to obtain these cases from the appropriate source (Harvard Business School Publishing)

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 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.

Special Assignments
None

Computers in Class
Students are forbidden to use laptops and other personal devices (tablets, iPads, cell phones) during class. 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 case discussions, and group projects.

Course Format

Classes will include a mixture of lectures, case discussions, published articles, student participation, and class presentation by students. The textbook and readings articles 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 and presentation, in-class participation, 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. 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

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

Student Assessments

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

1. **Class participation (10%)**: You are expected to prepare beforehand for each class, participate actively in the discussion of cases and readings, and contribute to the learning experience of the class. Attendance will be taken in each class, starting in the 2nd week.

2. **Homework (20%)**: I will assign several homework questions throughout the course of the semester. Students are expected to provide their homework answers to <u>any five</u> homework assignments. Each HW assignment will count toward 4% of the grade. More details will be provided in class.

3. **Group case analysis and presentation (20%)**: The class will be split into several groups. Each group will discuss an assigned case in class. Case analysis and presentation is a group effort, and each presentation should be approximately 30 minutes in duration. Each team will submit its written analyses in Powerpoint format to the Instructor before class.[1]

4. **Mid-term Exam (25%)**: There will be an **in-class** mid-term exam. Students will be tested on the course material taught until that time.

5. **Final Exam (25%)**: 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 and case discussions.

Group Cases

Five cases will be used during the course of the semester for group case analyses and presentation. The class will be divided into teams, with each team composed of five students (on average). Case questions will be distributed beforehand by the Instructor.

The cases to be assigned are as follows:

1. CareGroup. HBS Case 9-303-097, August 2005.
2. Family Medicine Clinic: Life after a Disastrous EMR Implementation. IDEA Group Publishing, Hershey, PA (#IT5582)
3. Mount Auburn Hospital: Physician Order Entry. HBS Case 9-603-060, 2003.
4. Information Technology and Clinical Operations at Beth Israel Deaconess Medical Center, HBS Case 9-607-150, 2007.
5. Peachtree Healthcare; Too far ahead of the IT Curve (HBR July – August 2007)

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[1] The schedule for case presentations will be provided in class once teams are finalized.

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 will then assign cases to the teams for the group case project. 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. A group chat room can also be created for each group to use.

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](#).

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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/disted.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.

Academic Calendar

Lecture Session	Topic	Assigned Readings
I. Introduction to Healthcare Information Systems	• Major trends in healthcare management • Health Reform Act • Types of Healthcare Data	• Chapter 1 • Lecture Notes
II. Healthcare Information Regulations & Standards	• Legal Aspects of Managing Health Information • Health records and Privacy • Certification and Accreditation (JCAHO)	• Chapter 3
III. Health IT Technology Infrastructure	• Data management • Hardware, software and information processing	• Chapter 8 • Handouts
IV. Clinical Information Systems	• Electronic Medical Record • Patient billing and administrative systems	• Chapter 4 • Lecture Notes
V. Emerging Usage of Hospital Information Systems	• Electronic Health records, Personal Health records • Mobile IT devices in healthcare	• Chapter 5 • Handouts • CRS software demo
VI. Meaningful Use of Health IT	• Meaningful Use Reporting • Implications of HITECH and PPACA	• Lecture Notes, handouts • Guest Speaker
VII. EPIC EMR Software Demo	• Demonstrate EMR software usage for clinical workflow	
VIII.	• In-class Mid-term Exam	
IX. Health IT Architecture	• IT architecture models in healthcare organizations • Service-oriented architecture	• Lecture Notes • Handouts
X. Systems Acquisition	• Factors affecting sourcing decisions • Systems acquisition, Outsourcing	• Chapter 6
XI. Systems Implementation and Integration	• Systems Implementation Process • Interface Engine, HL7	• Chapter 7 • Guest Speaker
XII. IT Governance and Management	• Foundations of IT governance • IT and Business Alignment	• Chapter 13 • Lecture Notes
XIII. IT Project Management in Healthcare Organizations	• IT planning and project management • Balanced scorecard and reporting	• Chapter 14 • Handouts

XIV. Health Information Exchanges	• Health Information Exchange	• Lecture Notes • Guest Speaker
XV. Course Wrap Up	• Group Case Presentations • Take-home Exam	

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 (see general catalog for details). This course will use the resources of turnitin.com, which searches the web for possible plagiarism and is over 90% effective.

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 timelines mentioned in the Academic Calendar are approximate and subject to change at the discretion of the Professor based on the course progress.

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