ERP 301 ERP Systems in Health Care Industry
Course Syllabus – Fall 2011

INSTRUCTOR AND COURSE INFORMATION

Instructors: Joe Abbott	**Class Hours:** 4-6:30pm, Wednesday
Office: Fulton 112	**Class room:** Fulton 107A
Phone: 573-341-4184	**Office Hours:** Tuesday 6pm – 8pm
E-Mail: abbottjo@mst.edu	and by appointment (suggest a time via
Course Credit: 3 semester hours of credit	email)
Prerequisite: IST50	**Class Web:** http://blackboard.mst.edu

COURSE CATALOG DESCRIPTION:

Specialization of ERP systems and concepts to the field of Health Care, with special emphasis on Business Process Integration in this environment.

COURSE OBJECTIVES

As a result of taking this course, students are expected to:

Course Objectives	Program Learning Objectives					
	Communication Skills	Critical Thinking	Information Technology	Teamwork & Leadership	Global & Multi-cultural Issues	Integrate Business Areas
Understand basic economic concepts that differentiation healthcare from other industries		X			X	X
Gain hands-on experience working in a healthcare environment via a class project. The project will focus on process modeling and/or working on Meditech configuration.	X	X	X	X		X
Become familiar with roles in healthcare by shadowing	X			X		
Learn how to use a healthcare information system by creating data and configuring an HIS. Will look at the HIS from the patient-flow perspective and the typical hospital departmental organization.			X			X
Become familiar with institutions that provide services in the US healthcare system		X			X	X

TEXTBOOK(S) AND MATERIALS FOR COURSE

- Required Textbook: Health Information Technology and Management, by Richard Gartee, published by Pearson, ISBN-13: 978-0-13-159267-4

GRADING POLICIES AND PROCEDURES:

Midterm	100 pts	Homework, Labs, Quizzes	200 pts
Final Exam	200 pts	Team Research Project & Presentation	200 pts
Participation	150 pts	Shadowing and Tour	150 pts

Grading Scale:

A: ≥ 890   B: 790 – 889   C: 690 - 789   D: 590 – 689   F: < 590

General Grading Policies:

1. **ALL ASSIGNMENTS AND TESTS ARE INDIVIDUAL WORKS UNLESS OTHERWISE SPECIFIED.**
2. All assignments should be handed in at the beginning of class on the date announced. **NO LATE ASSIGNMENTS WILL BE ACCEPTED.**
3. Please make every effort to make it to class on time. It is disruptive to the class to have members arriving late.
4. Attendance is encouraged. If you are unable to attend a class, you need to **turn in assignments in advance** (ask a friend to turn it in for you, use digital drop box provided by blackboard, etc.). You are also responsible for finding out what was covered in class and what announcements were made as well as obtaining handouts.

Exams, Tests, and Quizzes

1. There will be mid-term and one final examination. **All exam materials may become property of the instructor after completion**.
2. It is possible to have announced and pop quizzes throughout the semester. Student will be given the date of announced quizzes one week in advance.
3. Exam dates and quizzes are a part of the class schedule. Failure to appear for an exam/quiz will result in the assignment of a zero for that exam/quiz. If you are going to miss an exam with a legitimate reason (e.g., scheduled surgery, official University business, etc.), contact the instructor **PRIOR** to the administration of that exam/quiz. A make-up quiz/test may be at instructor's discretion.
4. All in-class quizzes and tests are closed books and closed notes unless otherwise specified.

Assignments

Assignments will mostly involve completion of concept, computations, and computer exercises and, unless otherwise informed, are due on the following class period in which it was assigned.

Team Research Project:

Each student will complete a team research project. Students may **NOT** receive these papers back, so if students want a copy, s/he better keeps one for him/herself. However, students may come review my comments on the report after they are graded.

Class Participation:

- Overall, student participation and discussion is essential to ensure that the course topics are understood and are made relevant to actual business situations encountered in the workplace. As such, attendance and participation are an essential factor in the learning process and a tool for assessing student learning. Therefore, you are encouraged and expected to attend all classes.
- Each 10% **unexcused absences will result in loss of a letter grade**. For example, if your grade is a B and you have missed 10% of classes without legitimate excuses, you will end up with a C.
- The instructor reserves the right to drop a student if a student has missed more than 20% of class time.

GENERAL COURSE POLICIES:
- **Academic Alert System:** http://academicalert.mst.edu
  The purpose of the Academic Alert System is to improve the overall academic success of students by improving communication among students, instructors and advisors; reducing the time required for students to be informed of their academic status; and informing students of actions necessary by them in order to meet the academic requirements in their courses.

- **Academic Dishonesty:** http://registrar.mst.edu/academicregs/index.html
  Page 30 of the Student Academic Regulations handbook describes the student standard of conduct relative to the System's Collected Rules and Regulations section 200.010, and offers descriptions of academic dishonesty including cheating, plagiarism or sabotage. Additional guidance for faculty, including the University's Academic Dishonesty Procedures, is available on-line at http://ugs.mst.edu .

- **Classroom Egress Maps:**
  Faculty should explain where the classroom emergency exits are located. Please include a statement in your course syllabus asking the students to familiarize themselves with the classroom egress maps posted on-line at: http://registrar.mst.edu/links/egress.html .

- **Disability Support Services:** http://dss.mst.edu
  Any student inquiring about academic accommodations because of a disability should be referred to Disability Support Services so that appropriate and reasonable accommodative services can be determined and recommended. Disability Support Services is located in 204 Norwood Hall. Their phone number is 341-4211 and their email is dss@mst.edu. Instructors may consider including the following statement on their course syllabus as a means of informing students about the services offered:

  "If you have a documented disability and anticipate needing accommodations in this course, you are strongly encouraged to meet with me early in the semester. You will need to request that the Disability Services staff send a letter to me verifying your disability and specifying the accommodation you will need before the instructor can arrange your accommodation."

- **Lateness**

  Normally, the instructor will be in class on time. However, if the instructor is late by more than fifteen minutes, students should check with the Department of Business Administration located in Fulton 101 whether the class will be canceled. Students are expected to be in class on time.

- **Using Meditech**

  - After signing the appropriate forms and attending orientation, you will be assigned an account on the PCRMC Meditech Test Environment. Other people use the test environment for work. Intentionally or carelessly interfering with someone else's tests will result in a failing grade. Accidents happen, but I expect you to follow naming protocols and other procedures as they are given in the class. Experimenting for curiosity's sake, will indicate a lack of careful thought and consideration and will be dealt with accordingly.

  - Meditech has very detailed, real-time auditing capabilities. Every activity in the system is recorded and analyzed by algorithms and/or a full-time auditor.

  - Attempts to log into the LIVE or production environment will result in dismissal from the class with a failing grade.

KEY DATES:

- See the Registrar's calendar for the last day to add this course, drop this course, or withdraw without a "WD".

ERP 301 Fall 2011 Course Schedule

Week of	Topic	Readings
8/22	**Course Overview** (Goals of Class, Review Syllabus, Grading – Tests, labs, project, Level of effort) **Introduction: Healthcare fundamentals** Introduction to PCRMC ERP in healthcare – What are we building? Compare HIS/EHR Systems – The IT Marketplace **Lab:** Navigate Interface (Meditech and/or Vista) HIPAA paper work (http://www.onc-ntdc.org/user)	
8/29	**Economics and Healthcare** Differences with other industries that use ERP Roles and Institutions (Ambulatory, Acute, Long-term, Home Health) CMS, Joint Commission, State, WHO, HIMSS Infrastructure and data exchange (HL7, HIE, Interfacing vs. integration) Pick countries for comparison and Hospital Orientation	Reading on Oil Prices and Tax wedge supply and demand Chapters 1 & 2
9/5	**Macro-healthcare** Global, Federal, State Influence (Healthcare as a public good) Medicare, Medicaid, Veterans Affairs, Exchanges, RAC Audits Commercial Insurance Nature of insurance (Risk sharing, Moral Hazard problem) Price vs. payment Charity care (mandate, mission, compare to scholarships) National systems (a.k.a. single payer systems) Brief presentation on US vs. UK, China, Saudi Arabia, Brazil, Sweden, Japan…	Chapter 4
9/12	**Patient's Rights** **Registration:** Advanced Directives, Demographic information (relevant federal standards), Encounter number vs. Patient ID, Two method identifier, Insurance, eligibility and pre-qualification, HIPAA **Medical Records:** Legal Medical Record vs. EMR, Records role in patient care (high volume providers), Release of Information (ROI), Storage requirements, Transcription, Structured vs. Unstructured data **Lab:** Define Patient Types, Payer Types, Billing for one insurer **Lab:** Register and Schedule a patient **Lab:** HIM, Coding	Chapter 3 Chapter 5
9/19	**Pharmacy** Pharmaceutical Companies; FDA; Prescription Medications and classes of Rx – handling requirements Parameters to prescribe (dose, route, frequency) Theft, fraud Roles: Doctors, Mid-tiers, Nurses, Pharmacists, Pharmacy Techs, Dentists, Chiropractors Workflow to order medications (DEA controlled substances) Nomenclatures Case: Thalidomide **Lab:** Medication Order **Lab:** Pharmacy	Chapter 8 (pp.195 – 196) Meditech Pharmacy Module documentation
9/26	Medical Imaging Roles, Data formats, PACS, Modalities, Parameters for imaging Business Process Modeling Standard **Lab:** Osirix	Chapter 8 (pp.189-191,194) Meditech Radiology Module documentation

Week of	Topic	Readings
10/3	**Mid-term** **Projects Assignment** **Tour the hospital (2 tours – select either morning or afternoon)**	

10/10	**Surgery & ED:** Roles, Standards (SCIP, WHO), Infections, Typical surgeries
	    ED vs. Inpatient vs. Ambulatory Care
	    3 ways to leave an ED
	    Why the wait?
	    Medication seeking
	    Typical data for ED
	    Communication to/from ED provider (Admitting, primary provider)
	    Ambulance
	    ED as primary care provider (patient rights, bug bite but no money, office closed)
	
	Case: Errors, the airline industry, communication in the OR
	Lab: Surgery
		Meditech ED Module documentation
		
		Chapter 8 (pp.197-201)

10/17	**Lab:** Nomenclatures, Roles, Division of a typical lab, Common lab tests, Resulting from reference labs, Automation in the lab **Lab:** Laboratory	Chapter 8 (pp. 186-189) Meditech Lab Module documentation
10/24	**Therapies:** Physical Therapy, Occupational Therapy, Speech Therapy, Cardiac Therapy, Cancer Treatment (Radiation Oncology, Chemotherapy) **Lab:** Recurring treatments/procedures (ie. therapies)	
10/31	**Doctors and Nurses:** Role and types of physicians, Orders (Role and types of nurses, Florence Nightingale, Point of Service devices, Nursing Informatics) Instructor on Vacation **Guest Speaker:** Director, Nursing Informatics, PCRMC **Guest Speaker:** Member of IT Physician Advisory Committee	Article on Florence Nightengale Meditech Nursing Module and Physician Workstation Module

11/7	**Coding:** Nomenclatures, ICD-9, DRGs, Snomed, ICD-10
	    Contracting with payers
	    Single payer system
	    Self-pay
	
	Discuss Nurse shadowing
	Lab: Entering orders, acknowledging orders, DC'ing, nursing notes, Problem List
		Chapter 9
		Chapter 10

11/14	**Clincal Quality & Measurement**
	    Data Mining, National Quality Standards, Agencies (Joint Commission, CMS, State)
	    Activities to improve processes, Quality charts - Fishbone diagrams, pareto analysis
	    Deming, Your product is a human being
	Lab: Billing and abstracting
		Chapter 11

11/21	Thanksgiving Break	
11/28	**Interoperability** (HL7, Interfacing vs. Integration) Guest Speaker: Will ask the Administrative Director of Clinical Quality, PCRMC **Lab:** Quality Reporting, Mirth Interface Engine	HL7 protocol definition
12/5	Project Presentation	
12/14	**Final Exam: 7 - 9 pm, Wednesday, December 14**	

Note: * it is possible, due to extenuating circumstances that exact coverage and sequencing of course content, grading criteria and weights may change. Students will be notified as far in advance of such changes.

References:

Medicare Bubble chart
https://www.cms.gov/dashboard/downloads/partAdash.asp?agree=yes&next=Accept

Medicare Fact Sheet
https://www.cms.gov/NationalHealthExpendData/25_NHE_Fact_Sheet.asp

Spending by Age
https://www.cms.gov/NationalHealthExpendData/downloads/2004-highlights.pdf

Medicare Spending by Age and Gender
https://www.cms.gov/NationalHealthExpendData/Downloads/2004GenderandAgeHighlights.pdf

Medicaid Summary
http://www.mffh.org/mm/files/MedicaidBasics2010.pdf

New Patient Rights
http://www.healthcare.gov/news/blog/consumerprotections03312011.html

Medicare Patient Rights
http://www.medicare.gov/publications/pubs/pdf/10112.pdf

Thalidomide Approval
http://www.accessdata.fda.gov/drugsatfda_docs/nda/98/020785s000_Thalidomide_MedR.pdf

http://www.nytimes.com/2010/03/16/science/16limb.html?adxnnl=1&adxnnlx=1313817558-G52isr0QYhX870RBWUnHcA&pagewanted=1
http://www.time.com/time/magazine/article/0,9171,873697,00.html
http://en.wikipedia.org/wiki/Thalidomide

RxNorm
http://www.nlm.nih.gov/research/umls/rxnorm/overview.html
RxNav