Summer 2013 Course Plan

Healthcare Information Systems
(32.607)

Patrick S. Grotton
Adjunct Professor

Office
Greater Lawrence Family Health Center, Inc
34 Haverhill Street
Lawrence MA

Email
pgrotton@glfhc.org

Phone
978-689-6657

Mobile Phone
978-420-8615

A graduate-level course introducing healthcare professionals to healthcare information systems, their design, development and implementation, as well as human factor considerations important to their success.

Course Objective

To give healthcare professionals a practical understanding of healthcare information systems sufficient to work effectively with and support information systems design, development and implementation within a variety healthcare settings.

Textbook

Teaching Approach

The course is taught on a “blended” basis, including both face-to-face and online classes. The class meets face-to-face six times; it meets online four times using the Blackboard Learn conferencing facility.

No background in information systems is required. The course will not involve any "hands on" computer work.

Face-to-Face Classes

The class meets face-to-face at the UMass Lowell Inn and Conference Center from 5:30 pm to 8:30 pm (see Class Calendar below). You have assignments for each class, including the first:

- **Wager Reading Assignments.** For each class, except for the face to face classes reserved for project presentations, you will read one or more chapters from Wager, *Health Care Information Systems*.

- **Supplemental Reading Assignment.** For most of the classes, you will also have one or more additional readings, and these are available as PDF documents from the class web site.

**Student Reports.** Selected students will be asked to present their report to the class. **Please come prepared to present as the instructor may not have your slides on the computer being used.**

The reading assignments are not optional. You will get so much more out of the course if you prepare adequately for our time together. I encourage you to read key assignments three times, preferably at different sittings. First, read the assignment quickly to get an overall perspective on what is covered and how the information is organized. Second, read the assignment slowly and carefully for comprehension. Third, quickly read the assignment once more, and highlight key points.

If you are not able to attend a class, you must complete the readings and review the posted lecture on your own schedule and prepare a one-page report of what you learned for the next attended class.
Online Classes

The class meets online from 7:00 pm to 10:00 pm on four Tuesdays. You not only have reading assignments for these classes, but you also have Supplemental Research Assignments. As with the Face to Face classes, you will develop a PowerPoint presentation of your supplemental research findings (student report), and post your PowerPoint presentation to the class web site no later than 4 pm on the day of class. During class itself, selected students will be asked to make their presentations.

Prior to the first class, you will receive information on accessing the Blackboard Learn facility. Technical support will be available to assist you in preparing your computer to use these features.

If you are not available to participate in one or more online classes, you must listen to the archived classes on your own schedule. The classes will be recorded and available from the class web site. If you miss an online class, you must also prepare a brief report of what you learned.

The online classes are conducted using Blackboard learn Collaborate (CHAT), an Internet-based communications facility accessed through the course’s web site. To use the online facility, you will need a computer microphone and headset. Due to feedback problems, the use of desktop speakers is not allowed.

Special Project

The project consists of 2 deliverables as listed below.

Special Project Report

A special project is required as follows. Consider that you are an information technology (IT) consultant. You have been asked to evaluate the vendor alternatives and select a new healthcare information system for a hospital, clinical department or other provider entity. You should prepare a memorandum-type report that includes the following:

1) **Situation Analysis.** Describe the "real" or hypothetical work environment, provider objectives and current information systems configuration, as well as any unmet needs or issues.

2) **Functional Requirements.** List or otherwise characterize the key functional requirements to be met by a new or upgraded health information system.

3) **Evaluate Vendor Alternatives.** Describe and evaluate several vendor alternatives. Indicate pros, cons and unresolved issues for each alternative. Give special attention to the “human factor” considerations.

4) **Provisional Recommendation.** Given the admittedly incomplete information available to you, what would you recommend as next steps? Options include
doing nothing, upgrading the current system, negotiating with one or more vendors, and evaluating other vendor alternatives. Be specific and indicate your rationales for each recommendation.

Students are encouraged to come forward with their own project ideas and then secure my approval. Otherwise, I am happy to sit down with you and suggest ideas. Much of the information required for this assignment will be available from the Web and industry trade journals (e.g., Modern Healthcare). You may also wish to request product literature from vendors, or obtain it through your own or another organization. Although not required, you may also wish to interview one or more individuals with relevant experience and expertise.

If you do not have a Healthcare background from which to draw project ideas, I recommend using the UML library, which is available online, and find a case study that you can build a scenario from. Be sure to create your own but the cases are a great starting point for ideas.

The project should be submitted in writing as a memorandum report, as if prepared for an actual or hypothetical client. Your report should be ten pages or less, single-spaced, and include:

✓ a narrative including all four subsections indicated above;
✓ one or more tables comparing features of the vendor alternatives; and
✓ one or more graphic representations depicting the functional requirements or work environment.

Anyone using "real" information should "blind" his or her report such that institutional confidentiality is protected.

Presentation

The presentation is developed as a PowerPoint presentation, as if prepared for an actual or hypothetical client. The PowerPoint should have no more than ten slides and include the following:

✓ slides addressing each of the four topics indicated above;
✓ one or more tables comparing features of the vendor alternatives; and
✓ one or more graphic representations depicting the functional requirements or work environment.
Anyone using "real" information should "blind" his or her presentation such that institutional confidentiality is protected.

You will have 10 minutes to present your findings to the class, as if briefing a client on work completed to date.

Grading

Grades will be assigned using the following weights:

20%-- Class Participation/Attendance

40%-- Class Assignments

40%-- Special Project Presentation

If you miss more than one Face-to-Face class, your grade for the entire course will be reduced.

I will grade each assignment using a 100-point scale. Up to two points of “extra credit” will be available to anyone providing unusually expansive and well-researched PowerPoint presentations. No points will be given for late submittals. All assignments are due at 4 pm on the day of class itself.

Grading will follow the following scheme:

<table>
<thead>
<tr>
<th>Grade</th>
<th>GPA Equivalent</th>
<th>Numeric Range</th>
<th>Grade</th>
<th>GPA Equivalent</th>
<th>Numeric Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.0</td>
<td>93-100</td>
<td>C</td>
<td>2.0</td>
<td>73-76</td>
</tr>
<tr>
<td>A-</td>
<td>3.7</td>
<td>90-92</td>
<td>C-</td>
<td>1.7</td>
<td>70-72</td>
</tr>
<tr>
<td>B+</td>
<td>3.3</td>
<td>87-89</td>
<td>D+</td>
<td>1.3</td>
<td>65-69</td>
</tr>
<tr>
<td>B</td>
<td>3.0</td>
<td>83-86</td>
<td>D</td>
<td>1.0</td>
<td>60-64</td>
</tr>
<tr>
<td>B-</td>
<td>2.7</td>
<td>80-82</td>
<td>F</td>
<td>0.0</td>
<td>&gt;60</td>
</tr>
<tr>
<td>C+</td>
<td>2.3</td>
<td>77-79</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Plagiarism** (whether from published sources, unpublished sources or the Internet) is absolutely not allowed in preparation of written assignments. A first offense will mean a letter reduction in your grade for the entire course; a second offense will result in your failing the course. It is incumbent on you (the student) to learn and understand what is meant by plagiarism and act accordingly. I encourage you to read [http://en.wikipedia.org/wiki/Plagiarism](http://en.wikipedia.org/wiki/Plagiarism). No extenuating circumstances will be allowed, and no second chances will be given. If I find that so much as a single sentence is copied without attribution (even if a word or two is changed), the above sanctions will be applied.
## Class Calendar

<table>
<thead>
<tr>
<th>Class Date</th>
<th>Wager Reading Assignment</th>
<th>Supplemental Reading Assignment</th>
<th>Student Reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 21 FTF</td>
<td>Ch. 1: Introduction to Health Care Information&lt;br&gt;Appendix A: Overview of the Health Care IT Industry&lt;br&gt;Ch. 2: Health Care Data Quality&lt;br&gt;Ch. 4: History and Evolution of Health Care Information Systems</td>
<td>MedPAC Report: Information Technology in Health Care&lt;br&gt;Centricity Brochure&lt;br&gt;Management of Information in Healthcare Organizations</td>
<td>Explore the history and evolution of a health information technology</td>
</tr>
<tr>
<td>May 28 Wimba</td>
<td>Ch. 5: Current and Emerging Use of Clinical Information Systems&lt;br&gt;Ch. 6: System Acquisition</td>
<td>IT Purchasing Strategies&lt;br&gt;Ten Steps to Selecting the Right Medical Software</td>
<td>Investigate a new or emerging health information technology and describe how and where it's being used.</td>
</tr>
<tr>
<td>June 4 FTF</td>
<td>Ch. 7: Systems Implementation and Support&lt;br&gt;Ch. 8: Information Architecture and Technologies that Support Health Care Information Systems</td>
<td>Usability of Electronic Medical Records</td>
<td>Investigate what HIT Jobs are available within the healthcare industry? Are the jobs that are available changing?</td>
</tr>
<tr>
<td>June 11 FTF</td>
<td>Ch. 13: IT Governance and Management&lt;br&gt;Ch. 14: Management's Role in Major IT Initiatives</td>
<td>Managing Change</td>
<td>Investigate and report on IT Governance and management’s role in IT</td>
</tr>
<tr>
<td>June 18 Wimba</td>
<td>Ch. 3: Health Care Information Regulations, Laws and Standards&lt;br&gt;Ch. 9: Health Care Information System Standards</td>
<td>The “Meaningful Use” Regulations for Electronic Health Records Detailed Analysis of the Final Rules on Stage 2 of Meaningful Use</td>
<td>Explore ARRA incentives and “Meaningful Use” requirements. Discuss the impact that these incentives and requirements will have on Health Information Systems</td>
</tr>
<tr>
<td>June 25 FTF</td>
<td>Ch. 11: Organizing Information Technology Services&lt;br&gt;Ch. 10: Security of Health Care Information Systems</td>
<td>“Computerized Physician Order Entry in Community Hospitals”&lt;br&gt;“Wrong National Strategy for EMRs?”</td>
<td>Investigate and describe a recent breach in healthcare information security. Discuss how the breach might have been avoided</td>
</tr>
<tr>
<td>Date</td>
<td>Chapter/Topic</td>
<td>Source(s)</td>
<td>Assignment</td>
</tr>
<tr>
<td>------------</td>
<td>-------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>July 2</td>
<td>Ch. 15: Assessing and Achieving Value in Healthcare Information Systems</td>
<td>Misys EMR Buyer’s Guide</td>
<td>Summarize an article (or share your own experience) on the adoption and use of an EMR, CPOE or other clinical information system</td>
</tr>
<tr>
<td>Wimba</td>
<td>“ROI for a CPOE”</td>
<td>The EMR from a Clinical/Patient Perspective</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>KLAS EMR Toolkit</td>
<td></td>
</tr>
<tr>
<td>July 9</td>
<td>Ch. 12 IT Alignment and Strategic Planning</td>
<td>The Shift to Security Implementation in a Healthcare Facility</td>
<td>Summarize an article that measures the value (e.g., benefits) derived from a specific HIT investment</td>
</tr>
<tr>
<td>Wimba</td>
<td>Ch. 16 Health IT Leadership</td>
<td></td>
<td></td>
</tr>
<tr>
<td>July 16</td>
<td></td>
<td></td>
<td>Project Reports DUE</td>
</tr>
<tr>
<td>FTF</td>
<td></td>
<td></td>
<td>Project Report Presentations</td>
</tr>
<tr>
<td>July 23</td>
<td></td>
<td></td>
<td>Project Report Presentations</td>
</tr>
</tbody>
</table>