

HIMT 410

Healthcare Systems: Implementation and Integration

Course Description and Overview

This course covers the back-end stages of the healthcare system development life cycle through the procurement route: development of technical design specifications, procurement procedures (RFP, RFQ, vendor evaluation and selection, and contracting), systems configuration, and integration, installation, conversion, operation, and maintenance. Pre-installation testing and post-conversion auditing and monitoring will be emphasized to address the upcoming requirements of federal certification of EHR systems. This course will also require you to work hands-on with an EHR system (SpringCharts).

This course is organized into 11 lessons and examines the following aspects: The back-end stages of the healthcare system development life cycle through the procurement route, focusing on implementation of EHR systems, using EHR systems, project management, selection of EHRs, and the role of EHRs in complying with federal laws.

Prerequisites: HIMT 300 Survey of Contemporary Computing, and HIMT 370 Healthcare Systems: Analysis and Design

Course Learning Objectives

At the end of this course, each student will be able to:

- Create workflow documents that depict organizational processes for healthcare facilities
- Evaluate electronic applications/systems for clinical classification and coding
- Create plans for implementation of electronic health records systems
- Construct models that document the data needs of the enterprise
- Recommend clinical, administrative, and specialty service applications
- Distinguish among the functional components of electronic health records systems for different types of healthcare facilities
- Analyze processes for procurement and system selection
- Discuss interoperability and information exchanges
- Analyze system architectures, database design, and data warehousing to support clinical applications

- Describe the architectures for personal health records
- Differentiate between various models for health information exchange

HIM Curriculum Competencies

This course presents the content, knowledge, and skills required for the following 2014 AHIMA bachelor's degree competencies:

- I.A.1. - Evaluate, implement and manage electronic applications/systems for clinical classification and coding.
- I.C.2. - Construct and maintain the standardization of data dictionaries to meet the needs of the enterprise.
- I.C.4. - Advocate information operability and information exchange.
- III.A.5. - Evaluate system architecture, database design, data warehousing.
- III.A.6. - Create the electronic structure of health data to meet a variety of end user needs.
- III.G.1. - Collaborate in the development of operational policies and procedures for health information exchange.
- III.G.3. - Differentiate between various models for health information exchange.
- VI.C.1. - Analyze workflow processes and responsibilities to meet organizational needs.
- VI.C.3. - Demonstrate workflow concepts.
- VI.G.3. - Evaluate the stages of the procurement process.
- VI.I.1. - Take part in system selection process.
- VI.I.2. - Recommend clinical, administrative, and specialty service applications.
- VI.J.1. - Evaluate vendor contracts.
- VI.J.2. - Develop negotiation skills in the process of system selection.

Course Textbook and Other Materials

This course requires you to use Microsoft Word and Excel. You can find good tutorials for Excel at the following site: <http://office.microsoft.com/en-us/training/excel-2007-training-courses-HA010218987.aspx>. You can find very good tutorials on creating charts in Excel at the following link: <http://office.microsoft.com/en-us/excel-help/charts-i-how-to-create-a-chart-RZ001105505.aspx>

For many activities in the course, you will be asked to produce diagrams using Microsoft Visio. You will be provided access to Microsoft Visio for this semester. You will receive an email from University of Wisconsin Extension with "WebStore Account Information" as its subject heading. Using that email, follow these instructions to access and download this software.

Course Activities

The course consists of the following activities and assessments.

| Activity | Assessment |
|--------------------------------------|---|
| Reading the textbooks | Homework assignments, Discussions, Quizzes, Exams |
| Watching the PowerPoint commentaries | Homework assignments, Discussions, Quizzes, Exams |
| SpringCharts Exercises | |
| Final Exam | |

Course Outline

- Lesson 1: Introduction to the Electronic Health Record
- Lesson 2: Challenges to EHR Adoption and EHR Project Management
- Lesson 3: EHR Goal Setting, Meaningful Use, and Strategic Planning
- Lesson 4: Healthcare Workflow, Process Mapping, and Functional Needs Assessment
- Lesson 5: Data Infrastructure and IT & System Infrastructure
- Lesson 6: Return on Investment for EHR Projects and EHR Selection
- Lesson 7: EHR System Implementation, Maintenance, and Record Management
- Lesson 8: Acute Care and Ambulatory Care EHR Applications
- Lesson 9: Specialty-Specific EHR Applications and Personal Health Records
- Lesson 10: Health Information Exchange

- Lesson 11: SpringCharts Exercises

Course Policies

Expectations from Students

Every week, there will be reading assignments, online discussions, and homework assignments. Some weeks, there will be an exam. You are expected to log on to the course website several times every week to read announcements, participate in online discussions, and complete and submit assigned work, including homework assignments and exams. You are expected to find offline time to complete the reading assignments, homework assignments, exercises, and exams.

You may communicate with the instructor via email or phone regarding your course-related questions and your personal matters that could affect your progress in the course. If you have a question that applies to the whole class, please post it at the course website (Ask Your Instructor forum). If you want to communicate confidentially with the instructor, please send an email to the instructor. Also, the instructor can be reached by phone or by fax. See the syllabus for instructor contact information.

Since this is an upper-level course for three credits, you are expected to spend about 9 to 12 hours per week on this class. These hours include reading the materials, participating in discussions, and working on homework assignments and exams. If you are unable to commit this time, it may have an adverse impact on your performance.

What Students Can Expect from the Instructor

Here is what you can expect from the instructor:

- The instructor will make frequent announcements about the conduct of the course.
- The instructor will moderate the online discussions.
- The instructor will grade discussions, assignments, and exams in a timely manner. Normally, all items will be graded within a week to ten days from the due date. If there is going to be a delay in grading, the instructor will announce it on the course website.
- The instructor will log on to the website regularly to look for questions posted. The instructor will answer the questions within 36 hours, often within 24 hours.

- The instructor will post any additional policies pertaining to the course, such as the policy for penalties for late submission.

Late, Incomplete, or Homework Not Submitted

If you are going to be late with an assignment or exam submission, please inform the instructor about the delay and explain the reasons. The instructor may accept the late submission with a penalty, depending on the reason and the nature of the assignment. Incomplete assignments will receive partial credit. Unsubmitted assignments will receive no credit. Please read the policies on late homework assignments, discussion messages, and exams.

- Late discussion messages will not receive any credit.
- Late homework assignments will be penalized 10% of the credit for each day they are late. If the homework is late by five days or more, it will not receive any credit. If you are unable to submit the homework on time and plan to submit the homework late, please contact the instructor.
- Late exams will be penalized 10% of the credit for each day they are late. If the exam is late by five days or more, it will not receive any credit. If you are unable to submit the exam on time and plan to submit the exam late, please contact the instructor.

Grading

Weighting of Assignments

This is how the required work in the course will be weighted:

| Assignments | Weight |
|--|--------|
| 10 Quizzes (Each quiz is based on assigned content from the Amatayakul textbook, is open-book, and contains about 20 multiple choice and/or true/false questions. The intent is to build your understanding of key concepts and terms) | 20% |
| 7 Discussions (See discussion questions section for further details) | 21% |
| Discussion Summary Assignment | 4% |
| 10 Homework assignments (See homework assignments section for further details) | 35% |

| Assignments | Weight |
|--|--------|
| 2 Exams (1 midterm + 1 final). The midterm and final exam questions are similar to the homework questions. Exam 1 (Midterm) will cover lessons 1 through 6, while exam 2 (final exam) will be comprehensive. | 20% |

Grading of Discussions

1. If you post relevant messages (one initial message and two follow-up messages enhancing/contradicting/substantiating your group members' messages) by the deadlines, you will receive 85% of the discussion grade.
2. Your follow-up messages cannot simply say "I agree with ..." or "That is a good point..." It is OK to disagree in a respectful way. If you agree with a comment made by a group member, you need to provide reasons/insight beyond what was already mentioned by the group member. If you disagree, you need to justify your position with reasons.
3. The remaining 15% of your grade for discussion postings is based on the following aspects:
 - How well you integrate concepts from the textbook's material (or other reading materials/assignments) into the discussion topic.
 - How nicely you bring your work experience (either from your current/past work or from other relevant courses) to the discussion topic.
 - How well you integrate multiple viewpoints of your group members into your messages.
 - How well your discussion messages integrate current business examples with the discussion topic (for example, if you are discussing HIPAA, bring in perspectives on how HIPAA impacts a clinic's or a hospital's operations).

Grading Scale

| Grade | Scale |
|-------|---------|
| A | 90–100% |
| B | 80–89% |
| C | 70–79% |
| D | 60–69% |
| F | 0–59% |

Lessons and Readings

| Lesson # | Book | Readings |
|----------|----------------------|---|
| Lesson 1 | Amatayakul | Chapter 1: Introduction to Electronic Health Records Chapter 2: Information Systems Theory and SDLC |
| | Hamilton | Chapter 1: The Electronic Health Record |
| | Additional Resources | Lesson 1 Commentary and Amatayakul Book PowerPoints for Chapters 1 and 2 |
| Lesson 2 | Amatayakul | Chapter 3: Challenges to EHR Adoption Chapter 4: EHR Project Management |
| | Hamilton | Chapter 2: Standards and Features of EHRs |
| | Additional Resources | Lesson 2 Commentary and Amatayakul Book PowerPoints for Chapters 3 and 4 |
| Lesson 3 | Amatayakul | Chapter 5: EHR Goal Setting and Impact on Quality of Care Chapter 6: Strategic Planning for the EHR Migration Path |
| | Hamilton | Chapter 3: Introduction and Setup |
| | Additional Resources | Lesson 3 Commentary and Amatayakul Book PowerPoints for Chapters 5 and 6 |
| Lesson 4 | Amatayakul | Chapter 7: Healthcare Workflow and Process Mapping Chapter 8: Functional Needs Assessment |
| | Hamilton | Chapter 4: The Clinic Administration |
| | Additional Resources | Lesson 4 Commentary and Amatayakul Book PowerPoints for Chapters 7 and 8 |
| Lesson 5 | Amatayakul | Chapter 9: Data Infrastructure Chapter 10: Information Technology and Systems Infrastructure |
| | Hamilton | Chapter 5: The Patient Chart |
| | Additional Resources | Lesson 5 Commentary and Amatayakul Book PowerPoints for Chapters 9 and 10 |
| Lesson 6 | Amatayakul | Chapter 11: Return on Investment and Benefits Realization Chapter 12: EHR Selection and Contract Negotiation |
| | Hamilton | Chapter 6: The Office Visit |
| | Additional Resources | Lesson 6 Commentary and Amatayakul Book PowerPoints for Chapters 11 and 12 |

| Lesson # | Book | Readings |
|-----------|----------------------|---|
| Lesson 7 | Amatayakul | Chapter 13: EHR System Implementation and Ongoing Maintenance Chapter 14: Enterprise Content and Record Management as an EHR Bridge Technology |
| | Hamilton | Chapter 7: Clinical Tools |
| | Additional Resources | Lesson 7 Commentary and Amatayakul Book PowerPoints for Chapters 13 and 14 |
| Lesson 8 | Amatayakul | Chapter 15: Acute Care EHR Applications Chapter 16: Ambulatory Care EHR Applications |
| | Hamilton | Chapter 8: Creating Templates |
| | Additional Resources | Lesson 8 Commentary and Amatayakul Book PowerPoints for Chapters 15 and 16 |
| Lesson 9 | Amatayakul | Chapter 17: Specialty-specific EHRs Chapter 18: Personal Health Records |
| | Hamilton | Chapter 9: Tests, Procedures, and Codes |
| | Additional Resources | Lesson 9 Commentary and Amatayakul Book Powerpoints for Chapters 17 and 18 |
| Lesson 10 | Amatayakul | Chapter 19: Health Information Exchange |
| | Hamilton | Chapter 10: Productivity Center and Utilities |
| | Additional Resources | Lesson 10 Commentary |
| Lesson 11 | Amatayakul | None |
| | Hamilton | Chapter 11: Applying Your Knowledge Chapter 12: EHR Practicum |
| | Additional Resources | Lesson 11 Commentary |

Course Calendar

Discussion and Homework Assignment Deadlines

Assignment

Introduce Yourself (in the Personal Introductions discussions forum)

Available @ 12 noon Due @ 11:59 pm

Wed. 01/20/2016

| Assignment | Available @ 12 noon | Due @ 11:59 pm |
|--|----------------------------|-----------------------|
| Discussion 1 Initial Post | | Fri. 01/22/2016 |
| Homework 1 | Wed. 01/20/2016 | Wed. 01/27/2016 |
| Discussion 1 Follow-Up Posts | | Fri. 01/29/2016 |
| Discussion 2 Initial Post | | Fri. 02/05/2016 |
| Homework 2 | Wed. 01/27/2016 | Wed. 02/03/2016 |
| Discussion 2 Follow-Up Posts | | Fri. 02/12/2016 |
| Homework 3 | Wed. 02/03/2016 | Wed. 02/10/2016 |
| Discussion 3 Initial Post | | Fri. 02/19/2016 |
| Homework 4 | Wed. 02/10/2016 | Wed. 02/17/2016 |
| Discussion 3 Follow-Up Posts | | Fri. 02/26/2016 |
| Homework 5 | Wed. 02/17/2016 | Wed. 02/24/2016 |
| Discussion 4 Initial Post | | Fri. 03/04/2016 |
| Homework 6 | Wed. 02/24/2016 | Wed. 03/02/2016 |
| Discussion 4 Follow-Up Posts | | Fri. 03/11/2016 |
| Exam 1 (on Lessons 1 through 6) | Wed. 03/09/2016 | Wed. 03/23/2016 |
| SPRING BREAK WEEK: WEEK OF MARCH 14 (No Course Activities Due This Week) | | |
| Discussion 5 Initial Post | | Fri. 03/25/2016 |
| Homework 7 | Wed. 03/23/2016 | Wed. 03/30/2016 |
| Discussion 5 Follow-Up Posts | | Fri. 04/01/2016 |
| Homework 8 | Wed. 03/30/2016 | Wed. 04/06/2016 |
| Discussion 6 Initial Post | | Fri. 04/08/2016 |
| Homework 9 | Wed. 04/06/2016 | Wed. 04/13/2016 |
| Discussion 6 Follow-Up Posts | | Fri. 04/15/2016 |
| Homework 10 | Wed. 04/13/2016 | Wed. 04/20/2016 |
| Discussion 7 Initial Post | | Fri. 04/22/2016 |
| Discussion 7 Follow-Up Posts | | Fri. 04/29/2016 |
| Discussion Summary Assignment | | Sun. 05/08/2016 |
| Exam 2 - Essay Questions (Based on all lessons) | Wed. 04/27/2016 | Fri. 05/06/2016 |

Quiz Deadlines

Note: Each quiz contains about 20 questions; these questions include multiple choice, true/false and matching questions; questions are based on the content from the Amatayakul book; *each quiz is based on the content from the corresponding lesson*; quizzes are open-book

| Quiz | <i>Available @ 12 noon</i> | <i>Due @ 11:59 pm</i> |
|------------------------|-----------------------------------|------------------------------|
| Quiz 1 (on Lesson 1) | Tue. 01/26/2016 | Tue. 02/02/2016 |
| Quiz 2 (on Lesson 2) | Tue. 02/02/2016 | Tue. 02/09/2016 |
| Quiz 3 (on Lesson 3) | Tue. 02/09/2016 | Tue. 02/16/2016 |
| Quiz 4 (on Lesson 4) | Tue. 02/16/2016 | Tue. 02/23/2016 |
| Quiz 5 (on Lesson 5) | Tue. 02/23/2016 | Tue. 03/01/2016 |
| Quiz 6 (on Lesson 6) | Tue. 03/01/2016 | Tue. 03/08/2016 |
| Quiz 7 (on Lesson 7) | Tue. 03/29/2016 | Tue. 04/05/2016 |
| Quiz 8 (on Lesson 8) | Tue. 04/05/2016 | Tue. 04/12/2016 |
| Quiz 9 (on Lesson 9) | Tue. 04/12/2016 | Tue. 04/19/2016 |
| Quiz 10 (on Lesson 10) | Tue. 04/19/2016 | Tue. 04/26/2016 |