HIMT 445
Application of Leadership and Management in Healthcare Technology

Course Description

Healthcare is the fastest growing employment sector in the United States. The ways in which healthcare is given, and ministered and funded or budgeted are different from the way healthcare worked in the past. These changes have resulted in the use of technologies in nearly every aspect of healthcare and the ways that health information is stored, shared, and used. This has resulted in a broad need for professionals to manage and work in the healthcare information technology and management areas.

This course assimilates and integrates concepts and applications of management and leadership in healthcare, advancing on the topics covered in HIMT 355, 365, and 415. Topics will include strategic leadership concepts, exploring key factors that impact management and planning, change management, critical organizational behaviors for leadership and management and focus on best practices, and organizational accountability, and assessment models. This is the final class in the Healthcare Management Track for the Bachelor of Science Degree in Health Information Management and Technology. As such, this class brings together the concepts of the core degree requirements and the preceding classes in the Healthcare Management Track. After this class, students will progress toward their Capstone, which is taken as part of the last semester of study for students in this program.

Prerequisites: HIMT 355 Principles of Management for HIMT Professionals; HIMT 365 Healthcare Economics; and HIMT 415 Human Resource Management in Healthcare

Course Learning Objectives

After completing this course, you will be able to:

- Understand HIT systems and practices, information exchanges, electronic medical records, interoperability, use conditions, and software design and application.
- Understand the HIT environment: influences and influencers, how quality is defined, patient safety, and quality philosophies and their application.
- Understand the technical side of HIT.
- Understand the role of the FDA, the Office of the National Coordinator, the Institute of Medicine, and global regulators in the laws and regulations that affect HIT.
- Understand the top ten characteristics of a quality executive and the Wisdom to Tradition model.
- Apply general strategic modeling to the software environment.
- Apply the Agile Development method in health information technology.
- Understand the quality systems under which HIT software is designed, manufactured, distributed, and serviced.

- Prepare for inspection readiness, understand the technical and human side of documentation, and make the right decisions during an inspection.
- Implement training, knowledge transfer, and application.
- Apply standard quality control tools for measurement analysis.
- Demonstrate how problem solving tools can be used as part of a strategic plan.
- Understand the caregiver view of HIT.

HIM Curriculum Competencies

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

- VI.A.2. Discover personal leadership style using contemporary leadership theory and principles.
- VI.A.5. Take part in enterprise-wide committees.
- VI.B.1. Interpret concepts of change management theories, techniques and leadership.

Textbook and Other Materials

Course Activities

The course consists of the following activities and assessments.

Activity	*Assessment*
Textbook reading Viewing the slide commentaries (as available)	Discussions, papers, and exams
Discussion participation	Graded discussion participation
Writing cases, minor papers (3), and a major paper	Graded
Exams (3)	Graded

Course Outline

The course is organized into 15 modules with the 16th week as final exam week.

- Module 1: Understanding Healthcare Information Technology
- Module 2: Environment: Influences and Influencers
- Module 3: Laws and Regulations
- Module 4: Characteristics of a Quality Executive and the Wisdom to Tradition Model
- Module 5: Four-D Model and the SWEATT Model
- Module 6: Online Exam
- Module 7: Strategic Modeling of the Software Environment
- Module 8: Quality Systems under which Healthcare Information Technology Software Is Designed, Manufactured, Distributed, and Serviced

- Module 9: Inspection Readiness
- Module 10: Training, Knowledge Transfer and Application
- Module 11: Online Exam
- Module 12: Measurement Analysis
- Module 13: Problem Solving, Statistics, and Mistake Proofing
- Module 14: User Analysis - the Caregiver View
- Module 15: Course Summary
- Module 16: Final Exam

Course Policies

Instructor Biography

- Vice President, Quality and Regulatory Affairs (major medical device manufacturer)
- 30 years of experience in medical drugs and devices (magnetic resonance imaging, blood transfusion, blood substitutes, cancer therapies, cardiovascular and drugs).
- 16 years of experience teaching at the university level, in the areas of leadership, ethics, statistics, and quality.
- Licensed professional engineer; holds professional certifications in the areas of quality engineering, software engineering, Six Sigma, and auditing.
- Active in several professional societies and on the national board of trustees for his college fraternity.
- Served on several professional certification exam committees and has served on U.S. congressional committees regarding medical device regulations.
- Publications in many areas and the author of three books: in the areas of leadership, statistics, and cancer management.
- Frequent speaker at global conferences; presenting on such topics as software design, regulatory affairs, statistics, cancer management, and quality management systems.
- Survived two battles with cancer, in 1991 and 2006 (non-Hodgkin’s lymphoma).

Slide Strategy

- Provide enough information that the student can download the slides and actually learn from the material and such that the student can use the slides in his or her current or future place of work.
- Provide enough information such that with the voice-overs the material is meaningful to the student.
- Provide enough information to link together the holistic courses of the degree program.

Discussion Strategy

- Engage students in discussions that have an application focus.
- Challenge the student’s and conventional method of thinking relative to the week's study area.
- Expectations of students: students are expected to be in EACH discussion questions 2 days during the academic week. The posts must demonstrate an understanding of the

material - using information from the text, the lecture notes / slides, and / or research to support their points. In extreme situations (as determined by the instructor), the student may submit a one page, single spaced answer to each discussion question in lieu of participation. This must be approved by the instructor in advance and must be submitted within one week of the week closure.

Writing Strategy

- Cases and Minor Papers: Reinforce the concepts of the class; prepare the student for the major paper.
- Major Paper: Allow the student to focus on the challenges of HIT leadership given the current and future environments of the HIT field.

Exam Strategy

- Reinforce the concepts of the class.
- To do well in the class, students must have read the material in the text and the slides.

Grading

Weighting of Assignments

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

Assignments	Weeks Due	Percentages
Discussion Questions	1-15, except in exam weeks	20%
Minor Papers	3, 6, & 9	15%
Major Paper	15	15%
First Exam	6	15%
Second Exam	11	15%
Final Exam	16	20%
Total		**100%**

Grading Scale

Grade	Scale
A	90–100%
B	80–89.99%
C	70–79.99%
D	60–69.99%
F	< 60.00%

Course Calendar

All discussions, assignments, and exams are due on Sunday 11:59 p.m. of each week, except for the final exam, which is due on Friday of the final week in the semester.

Dates	Assignments	Exams	Discussion Questions
Week 1 1/19 - 1/24	None	None	What are some of the challenges that are faced in the healthcare information technology space? Given 21st-century technology advancements, are these challenges surprising to you? Are they part of the growth pains of a market? Comment on CASE 16 located in the last section of the text.
Week 2 1/25 - 1/31	For Week 3, you must submit a three-page, double-spaced paper on challenges in the healthcare information technology space. Include a minimum of two references other than information provided in this class. The cover page and reference page must be separate from the paper submission and do not count as part of the three-page requirement.	None	How would you define quality in the health information technology environment? Where are the significant influencers in the health information technology environment attempting to push the global laws and regulations? Are all the influencers in agreement on the long-term direction of the health information technology environment?
Week 3 2/1 - 2/7	The paper assigned in Week 2 is due by Sunday 11:59 p.m. of Week 3.	None	What surprises you most about the laws and regulations in the healthcare information technology environment? Did you expect this to be a much more strongly regulated area? What are the pros and cons of the uncertainty within the healthcare information technology regulations, both domestically and globally? Comment on CASE 2 located in the last section of the text.
Week 4	None	None	What is your view on the top 10 characteristics of a quality executive? Are these the

2/8 - 2/14			characteristics that you would expect of the quality executive in the healthcare information technology industry? What characteristics would you add to this list? What is your view of the Wisdom to Tradition model? How would this model help an organization ensure a passion for patient safety? Comment on CASE 3 in the last section of the text.
Week 5 2/15 - 2/21	For Week 6, you must submit a SWEATT model for a healthcare information technology application. This model should be at a strategic level and should include a minimum of three measurements in each SWEATT category.	None	How can you apply the SWEATT model in the health information technology environment? Why is it important to have the proper measurements and movement points relative to the SWEATT model? How can you apply the 4-D model? How could the use of this model help ensure that HCIT devices function properly when used by caregivers?
Week 6 2/22 - 2/28	The paper (SWEATT model) assigned in Week 5 is due by Sunday 11:59 p.m. of Week 6	The exam is a 3½-hour timed exam. There are 12 questions on the exam. Your answers must be thorough and demonstrate a detailed understanding of the topic.	None
Week 7 2/29 - 3/6	None	None	What are the advantages of the Agile software design model over the classic waterfall design method? How is product design in the HIT environment different from purely hardware device design? Comment on CASE 11 located in the last section of the text.
Week 8 3/7 - 3/13	For Week 9, you must submit a three-page paper on the challenges faced by healthcare information technology organizations relative to	None	How do the requirements under management responsibility and specifically the quality management review link to the leadership strategies discussed

	maintaining control of the design control processes. Include a minimum of two references other than information provided in this class. The cover page and reference page must be separate from the paper submission and do not count as part of the three-page requirement.		in Weeks 4 and 5? Why is it important that the discussions which occur in the quality management review be protected from review during normal investigations by regulators? What are some of the challenges faced by health information technology organizations relative to post-market activity? What suggestions do you have on how to improve regulations in this area?
Week 9 3/14 - 3/20	The paper assigned in Week 8 is due by Sunday 11:59 p.m. of Week 9.	None	Do the 10 rules for successful inspection make sense to you? Which rule is the most important? What would you add to facilitate a successful healthcare information technology business inspection? Given the quality maturity matrix, what do you see as some warning signs for organizations currently in the health information technology environment that would indicate that they are slipping toward a crisis situation? What should be done in these organizations to prevent a crisis from occurring?
Week 10 3/21 - 3/27	None	None	What training do you think would be most valuable for employees in the healthcare information technology environment? Should software engineers learn more about regulations? Should post-market surveillance employees learn more about software coding, etc.? What you think about the concept of using professional certifications to drive learning and application in the healthcare

			information technology environment?
Week 11 3/28 - 4/3	None	The exam is a 3½-hour timed exam. There are 8 questions on the exam. Your answers must be thorough and demonstrate a detailed understanding of the topic.	None
Week 12 4/4 - 4/10	None	None	Where would there be an application of the Is – Is Not tool in the healthcare information technology environment? Link your answer back to our study on defining quality in Week 2 and post-market surveillance in Week 6. How do you feel about the fact that health information technology products and services are not 100% tested and that this can sometimes, unfortunately, lead to adverse events when the product or service is used? Do you think the public at large understands these risks and can accept the fact that there is some level of inherent risk within the healthcare information technology products and services that will always exist? How do we get the public to understand that perfection is not the standard upon which healthcare information technology products and services should be judged?

Week 13 4/11 - 4/17	None	None	How do the five concepts of mistake proofing link to the problem-solving effort? How could the five concepts of mistake proofing link to the strategic plan of the healthcare information technology organization? How do the concepts of reactive and predictive measurement fit into the concept of problem solving? Provide an example of where a healthcare information technology organization has used a problem-solving process that included both reactive and predictive measures. Comment on CASE 11 located in the last section of the text.
Week 14 4/18 - 4/24	For Week 15, you must submit a ten-page paper, double-spaced, on the topic of leadership of healthcare information technology organizations. Your paper should focus holistically on the challenges facing leadership within healthcare information technology organizations, and how these organizations should adapt to an ever uncertain and changing environment. Students are to assimilate the information that they have studied in this class into a document they can use to propel further knowledge in this area. Include a minimum of 5 references; you may use references provided in this class. The cover page, executive summary page, and reference page must be separate from the paper submission and do not count as part of the ten-page requirement.	None	Is it the responsibility of the health information technology organization to develop products and services that can be used in an unanticipated manner or is it the responsibility of the user to use these products and services only in a way that is approved by the health information technology organizations and applicable laws and regulations? What if the health information technology organizations and applicable laws are not keeping pace with the needs of the product and service users? What are some of the most important considerations that a healthcare information technology administrator has relative to the purchase of this technology? Is it fair or proper that administrators expect a high return on investment for healthcare information technology purchases? How do these expectations link to ethical

			standards within the healthcare community?
Week 15 4/25 - 5/1	The paper assigned in Week 14 is due by Sunday 11:59 p.m. of Week 15.	None	What have you recently heard or read about healthcare information technology? Given your understanding of the material in this class, do you find the material that you have heard or read to be credible and well-informed? What can leaders of health information technology organizations do to ensure that the general public, users, patients, and media understand information technology products and services fairly and accurately? Provide for your classmates the executive summary of your paper that is due in Week 15. Comment on an important part of your paper that you found interesting relative to leadership of healthcare information technology organizations.

Week 16 5/1 - 5/6	None	Final Exam: The final exam for this course is comprehensive of Weeks 1 through 15. The final exam is 12 questions long and 3½ hours are allowed for completion. It is important that you use the language and information that you have learned in this class to communicate your answers on the final exam. Your final exam answers should demonstrate significant depth of thought relative to the leadership and management challenges in healthcare information technology.	None