SI / HMP 661: Managing Health Informatics
University of Michigan, School of Information
Tuesdays, 6:10-9:00 PM
Lecture Room 1, Modern Languages Building
Fall 2017

PROFESSOR
Casey Pierce, PhD
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OFFICE HOURS
By appointment — Wednesdays & Thursdays 4-5pm
Please book appointment online: bit.ly/profpierceofficehours

OVERVIEW
The course will prepare students to take on management challenges faced in health informatics leadership roles within a variety of organizational settings. It will be a highly interactive course in which students will have the opportunity to apply theory when discussing real-world health informatics scenarios from a variety of perspectives.

OBJECTIVES
- To equip students with the relevant theories and health informatics content knowledge to become effective leaders within health-related organizations.
- To expose students to real-world managerial decisions in the health informatics domain.
- To enable students to consider multiple dimensions of decisions in uncertain and ambiguous scenarios and articulate the justification for their chosen approach.

LEARNING OUTCOMES
After completing this course students will be able to:
- Describe key theories in four domains -- leadership, operational process control, disruptive innovation, and population ecology – in order to have generalized knowledge about how to be an effective leader.
- Apply key theories to a set of health informatics topics in which management plays a central role -- implementation & project management, IT & care transformation, big data & analytics, policy & market forces – in order to assess the specific mechanisms through which the theories can facilitate managerial decision-making.
- Be familiar with scenarios that capture real-world health informatics management decisions in order to feel comfortable making decisions under uncertain or ambiguous circumstances.
COURSE STRUCTURE
The course includes four modules. Each module will draw on a given theory to examine a specific type of managerial challenge in the health IT domain:

- Module 1: Leading Health IT Implementations
- Module 2: Redesigning Care Delivery to Leverage Health IT
- Module 3: Innovating through Health IT
- Module 4: Managing Environmental Factors: Health IT Policy and Market Dynamics

Each module will be comprised of (1): introduction to theory and discussion of its applicability to managerial challenges; (2) guest lecture with a practitioner – someone whose job it is to tackle that challenge – and they will speak to how well the theories work in practice; and (3) case study analysis to give students an opportunity to wrestle with the given challenge themselves, drawing on the theory and practical experiences.

COURSE MATERIALS
There is no assigned textbook for the course. Readings, case studies and other learning materials will be available on Canvas.

COURSE REQUIREMENTS
Throughout the semester, students will be expected to complete the assigned readings, attend and actively participate during class, and prepare three cases. There will be a final project.

Required readings for the course include:
- Cases
- Articles from peer-reviewed journals
- Reports from health informatics thought leaders

The course will heavily emphasize cases. Although short, they require extensive preparation and thorough reading. We will spend the first session of the course learning how to read and prepare a case. For other readings, please carefully review any additional instructions associated with a given reading. We may not review all the readings in class but you will be expected to cite them in your written assignments.

ASSIGNMENTS (100 points TOTAL)

Class Participation (25 points)
Given that class participation is a critical part of the course and that successful class participation requires that you have read the assigned material, the main homework assignment is to carefully complete the required reading before each class.

Case Analyses (45 points; 15 points each)
You are required to prepare three cases throughout the semester – one for each of the first three modules (cases for analysis marked as *** in the Course Schedule on pg. 6). You will read and prepare to discuss the case in advance of the class in which it is discussed. Then, two weeks after the case is discussed, you will turn in your formal write-up. The case that will serve as the basis for the assignment will be selected from the two assigned cases and announced in-class. There will be specific questions and guidance for each case assignment.
Final Paper (30 points)
The final paper will ask you to write a case about yourself. This will be an 8-10 page paper comprised of the following parts:

- Part 1: Describe a future leadership position that you would like to hold that would relate to health informatics in some way.
- Part 2: Describe three distinct core managerial challenges that you think you are likely to face, related to health informatics, in this position.
- Part 3: For each challenge, describe how you in your leadership position would approach addressing it, speaking specifically to what you have learned this semester.

More details will be provided in class.

At the end of the semester, I will translate the numerical scores to letter grades with a 97 and above being an A+, 93-96.9 being an A, 90-92.9 being an A-, 87-89.9 being a B+, 83-86.9 being a B, 80-82.9 being a B-, and so on.

POLICIES AND EXPECTATIONS

Feedback
To You. I will do my best to return assignments to you in a timely fashion and with sufficient comments for you to understand where any gaps in your understanding may lie. Feel free to follow-up with me if you can’t understand (or read!) a particular comment, or if points were miscalculated. Since class participation is 25% of your grade, halfway through the semester I will individually let any students know if they are not participating at an acceptable level. Please also use it as an opportunity to let me know if there are things I can do to facilitate your participation.

From You. I highly value your feedback on both the content and structure of the course. There will be two opportunities for formal evaluation. I will conduct an anonymous mid-semester evaluation and there is a formal university-sponsored evaluation at the end of the semester. Outside of these, I welcome you to share feedback with me informally and via whichever channel is most comfortable to you. Don’t be shy! My goal is to teach a course that meets your needs, and I am not always able to tell if I am doing so.

Written Work
Written work will be submitted to Canvas as a pdf. For all your written work, please take time to organize your thoughts, spell check, and proofread your work. Please use 1-inch margins (top, bottom, left, and right), Times New Roman font size 12. Paragraphs should be single spaced with double space in between. Your UMID (NOT your name) and the title of the assignment should appear on every page in the upper left hand margin and page numbers should appear in the lower right hand corner.

Attendance
You are expected to arrive on time (that is, “Michigan time” at 6:10pm) and attend all classes. Your grades for class discussion and in-class activities are heavily dependent on it. Missing multiple classes will not enable you to pass the class, and you should withdraw from the class if you anticipate multiple absences. Understandably, you may encounter unexpected emergencies or extenuating circumstances that prevent you from attending class.

If an unforeseen emergency prevents you from meeting a course requirement, please email me a physician’s note or hardship that confirms the unforeseen emergency within 24 hours. It is your responsibility to submit this paperwork. If you are absent (after using your two attendance “freebies”) without notifying me via email, you will receive a class discussion and in-class activity grade of 0. To be clear, work conflicts, job interviews, being delayed by traffic, trips you planned before registering for class, other scheduled events and faulty alarm clocks are not the type of events that fall into the category of unforeseen emergencies. These non-emergency type of events can count as your two attendance “freebies” without any penalty to your final grade.
If longer term *extenuating circumstances* prevent you from meeting course requirements, please contact the UMSI Office of Student Affairs (OSA) so they can assist you. OSA will then let me know you will need special accommodations to complete the course. I am understanding of life hardships and will be flexible to find reasonable alternatives for your specific situation. Again, these special accommodations are reserved for *extenuating circumstances only* and does not apply to job interviews, a busy course load or demanding extracurricular schedule.

**Late policy**
Assignments will automatically be marked as late if they are uploaded on Canvas after the due date. You have a 1 hour grace period to upload your assignment by the due date listed in the course schedule. After the grace period, assignments will receive a 10% penalty for each late day, up to two days maximum. I will not accept late assignments after 2 days and late assignments will receive a 0 grade. If there are unforeseen emergencies or extenuating circumstances preventing you from completing an assignment on time, please discuss these with me *before* the assignment is due.

**Etiquette for using technology in the classroom**
You are encouraged to bring laptops to class and to use them actively as learning tools keeping the following points in mind:

- Use laptops for taking notes, conducting research required for activities, and other specific classroom tasks as assigned by the instructor. During class, you should not check e-mail, chat, IM, play games, or perform other off-task activities. Make sure the volume on your laptop is muted.
- Engage in class activities. The computer should not become a barrier to one-on-one interaction, but instead should help facilitate the exchange of ideas and engagement in classroom contact.
- Demonstrate sensitivity to others. You should not display screen images, including wallpapers and screen savers, which might be distracting or offensive to other members of the class.
- Please silence or place your phone on vibrate. If your phone is out on your desk, please place it face down to avoid distractions.

**What you can expect from me**

- I will be available to you via e-mail and will promptly return your e-mail messages. During the week, you can expect a response within 24 hours; however I do not guarantee email replies over the weekend. Hence, please plan ahead if you need to email a question pertaining to Tuesday’s class so that I can respond in enough time.
- I will be available to you for office hours during the available appointment slots listed in the Google Calendar.
- I will maintain the Canvas web site with current materials and announcements, and will resolve any content-related problems promptly as they are reported to me.
- I will hold our written or verbal communications in confidence unless requested by you. I will not share or post your assignments without notifying everyone in advance of my plans to post them.
- I will treat all class members fairly, and will do my best to accommodate individual learning styles and special needs.

**Academic Integrity**
I strongly encourage collaboration while discussing and interpreting the reading assignments. Active learning is effective. Collaboration will be especially valuable in summarizing the reading materials and picking out the key concepts.

All written submissions (cases and final project) must be your own, original work. Original work for narrative questions is not mere paraphrasing of someone else’s completed answer and you are not allowed to share written answers with each other prior to submission. Largely duplicate copies of the same assignment will receive an equal division of the total point score from the one piece of work. You may incorporate selected excerpts from publications by other authors, but they must be clearly marked as quotations and must be attributed. If you build on the ideas of prior authors, you must cite their work. You
may obtain copy editing assistance, and you may discuss your ideas with others, but all substantive writing and ideas must be your own, or be explicitly attributed to another.

For more information, refer to the Rackham Graduate policy on Academic and Professional Integrity for the definition of plagiarism, and associated consequences: http://www.rackham.umich.edu/policies/academic_and_professional_integrity/statement_on_academic_integrity/.

**Accommodations**
If you think you need an accommodation for a disability, please let me know at your earliest convenience. Some aspects of this course, the assignments, the in-class activities, and the way the course is taught may be modified to facilitate your participation and progress. As soon as you make us aware of your needs, we can work with Services for Students with Disabilities (SSD) to help determine appropriate accommodations. SSD (734-763-3000; http://ssd.umich.edu/) typically recommends accommodations through a Verified Individualized Services and Accommodations (VISA) form. We will treat any information you provide as private and confidential. Please let me know if you require any other special accommodations due to religious practices, physical requirements, medical needs, or any other reasons.

**Student Mental Health and Wellbeing**
The University of Michigan is committed to advancing the mental health and wellbeing of its students, while acknowledging that a variety of issues, such as strained relationships, increased anxiety, alcohol/drug problems, and depression, directly impacts students’ academic performance.

If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available. For help, contact Counseling and Psychological Services (CAPS) at (734) 764-8312 and https://caps.umich.edu/ during and after hours, on weekends and holidays or through its counselors physically located in schools on both North and Central Campus. You may also consult University Health Service (UHS) at (732) 764-8320 and https://www.uhs.umich.edu/mentalhealthsvcs, or for alcohol or drug concerns, see www.uhs.umich.edu/aodresources. For a more comprehensive listing of the broad range of mental health services available on campus, please visit: http://umich.edu/~mhealth/
# COURSE SCHEDULE

*Note: Schedule subject to change depending on guest speaker visits. A modified syllabus will be uploaded on Canvas accordingly.*

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<thead>
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<th>Module</th>
<th>Date</th>
<th>Session</th>
<th>Session Details</th>
<th>Assignment Due</th>
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<tbody>
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<td><strong>MODULE 1</strong></td>
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<tr>
<td>Health IT Implementation</td>
<td>Sept 5</td>
<td>1</td>
<td><em>Course Introduction</em></td>
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<td><em>Theory: The Role of Leaders &amp; Leadership</em></td>
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<td>Sept 12</td>
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<td><em>Theory: The Role of Leaders &amp; Leadership (cont.)</em></td>
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<td><em>Lightning Challenges</em></td>
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<td>Sept 19</td>
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<td><em>Learning the Case Method</em></td>
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<td><em>Practice Case: McAfee, MacGregor &amp; Benari (2002) Mount Auburn Hospital</em></td>
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<td><em>Guest Speaker: TBD</em></td>
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<td><strong>MODULE 2</strong></td>
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<td>Redesigning Care Delivery to Leverage Health IT</td>
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<td><em>Theory: Operational Process Control &amp; Performance Improvement</em></td>
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<td><em>Case: Huckman et al (2016) NYU Langone Medical Center</em></td>
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<td><em>Lightning Challenges</em></td>
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<td>Oct 10</td>
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<td><em>Health Informatics Domain: Data-driven Care Management &amp; Redesign</em></td>
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<td>Oct 17</td>
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<td><strong>No Class - Fall Study Break</strong></td>
<td>Case Analysis 1 Due via Canvas</td>
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<td>Oct 24</td>
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<td><strong>Case2:</strong> Tucker (2013) Learning About Reducing Hospital Mortality at Kaiser***</td>
<td><strong>Lightning Challenges</strong></td>
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<td><strong>MODULE 3</strong></td>
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<td><strong>Theory:</strong> Creating and Managing Innovation</td>
<td><strong>Lightning Challenges</strong></td>
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<td>Innovating through Health IT</td>
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<td>Nov 7</td>
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<td><strong>Health Informatics Domain:</strong> Innovating in a Start-Up Environment</td>
<td>Case Analysis 2 Due via Canvas</td>
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<td>Nov 14</td>
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<td><strong>Health Informatics Domain:</strong> Innovating within an Established Organization</td>
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<td>Nov 21</td>
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<td><strong>Theory:</strong> Population Ecology</td>
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<td><strong>Health Informatics Domain:</strong> Industry Trends &amp; Policy Issues</td>
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<td>Dec 5</td>
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<td>Case: Arbor Healthcare Company</td>
<td>Case Analysis 3 Due via Canvas</td>
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<td>Wrap-Up</td>
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<td>CONCLUDING SESSION</td>
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<td>Rapid Fire Management Challenges</td>
<td>Final Paper Due via Canvas</td>
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MODULE 1: LEADING HEALTH IT IMPLEMENTATIONS

SESSION 1: Course Introduction
CIOs are visible leaders in healthcare organizations and make key health IT strategy decisions. We will kick-off the course by hearing from the CIO of a large, academic health system and learn about the management challenges faced in this role, specifically in the context of leading a large EHR implementation.

Readings:

SESSION 2: The Role of Leaders and Leadership
What are the key challenges faced by a leader in the context of HIT implementation?

Readings:

2.1 Change Management
How do you manage change on an organization level?

Readings:

2.1 Expectation Setting
Why is it important to set expectations for employees? What are successful strategies for setting expectations? Why is setting expectations particularly important during periods of change?


2.3 Building High-Performance, Resilient Teams
What are common characteristics among successful teams? What is the leader’s role in developing and maintaining effective teams?

Readings:
2.4 Framing for Learning
What does it mean to be a learning organization? How can leaders create a learning orientation?

Readings:

2.5 Applied Case
What are the different dimensions of framing for learning? What do they look like in practice?

Readings:

SESSION #3: Learning the Case Method and First Case
What is the value of using cases to learn? How do you prepare for a case?

Readings:

SESSION #4: Case Study
See specific discussion questions.

Readings:

MODULE 2: REDESIGNING CARE DELIVERY TO LEVERAGE HEALTH IT

SESSION #5: Operational Process Control & Performance Improvement

5.1 From Implementation to Optimization
How do we make sure sure, when we know what to do, we are doing the right thing? What are the steps to go from implementation to optimization? What happens when we fail at those steps?

Readings:


5.2 Using IT to Enable New Approaches to Care Delivery

*What types of processes are health care organizations trying to change? How can HIT support these delivery system reforms? In what way are the HIT-enabled processes different from paper processes, beyond speed/automation? How can HIT support the overall attributes Shih et al identify as crucial to a high-performing health system?*

**Readings:**


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**SESSION #6: IT-Enabled Performance Measurement and Monitoring**

*How can better access to real-time data enabled by EHRs be used to redesign care and improve outcomes?*

**Readings:**


SESSION #7: Case Study
See specific discussion questions.

Readings:

MODULE 3: INNOVATING THROUGH HEALTH IT

SESSION #8: Creating and Managing Innovation

8.1 What is Innovation?
What is innovation? How do we know it when we see it? Are there different types of innovation?

Readings:


8.2 What is the process of innovation?
What is the process of innovation? How do you create innovation?

Readings:

8.3 How do you lead/manage innovation?
What management skills are required to produce and deliver on innovation?

Readings:

SESSION #9: Innovating in Start-Up Environment

What are the key management dimensions of innovative healthcare technology start-ups?

Readings:

SESSION #10: Innovating within an Established Enterprise & Case Study

See specific discussion questions.

Readings:

MODULE 4: MANAGING ENVIRONMENTAL FACTORS – HEALTH IT POLICY AND MARKET DYNAMICS

SESSION #11: Managing a Changing Environment: HIT and the Relationships between Hospitals and Physicians

How do organizations manage their external environments? What happens when you do nothing and the environment is nonetheless changing around you? Why might “doing something” be challenging?

Readings:

Congress relaxed regulations to allow hospitals to share HIT with physicians in an effort to increase adoption in the ambulatory setting – how did hospitals respond to this new opportunity? Did they perceive it as beneficial? Were they able to act in ways they thought were strategic?

Readings:

What are Accountable Care Organizations? What are hospitals and physicians worried about? How could each group benefit? In what ways are the interests of hospitals and physicians either complementary or competitive?

Readings:

How do the tensions among ACO participants affect ACOs’ overall ability to set up and leverage HIT?

Readings:

See specific discussion questions.

Readings:

SESSION #12: Industry Trends and Policy Issues
Read through this bundle of official notices from CMS and try to identify some of the concerns hospitals and physicians might have in forming an ACO. What questions do you have about UM's decision to withdraw from the Pioneer ACO demonstration?

Readings:

SESSION #13: Case Study

Readings:

SESSION #14: Rapid Fire Management Challenges
No Readings