SI / HMP 661: Managing Health Informatics
University of Michigan, School of Information
Winter 2021
Remote/Asynchronous

PROFESSOR
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Office hours: Tues 4:30-6pm (drop-in via Zoom) or by appointment (schedule via — https://calendly.com/cspierce/officehours)

GSI
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Office hours: Tues 4:30-6pm (drop-in via Zoom) or Wed 1-3pm

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 three domains — leadership, operational process control, and disruptive innovation — 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 three modules:
• Module 1: Leading Health IT Implementations
• Module 2: Redesigning Care Delivery to Leverage Health IT
• Module 3: Innovating through Health IT
Each module will be comprised of: (1) introduction to theory and discussion of its applicability to managerial challenges in the health IT domain; (2) interviews with practitioners – someone whose job it is to tackle that challenge – and they will speak to how well the theories work in practice; and (3) multiple case study analyses to give students an opportunity to tackle organizational challenge themselves, drawing on the theory and practical experiences.

The course this semester (Winter 2021) will be conducted in an online/remote format. Lectures will be asynchronously and shared via video on Tuesday at the remote class time (Tues at 4:30pm), but you can view the lecture material at any time during the week. A portion of the scheduled class time will be reserved for drop-in office hours (Tues 4:30-6pm); the professor and GSI alternate weeks hosting the drop in office hours. You can use the scheduled time or any time during the week to work on your individual and group assignments. All assignments will be due Tues at 4:30pm.

This course also adopts a gameful learning approach. The gameful learning approach allows for students to have flexibility and autonomy in the course. Additional details on the point system and assignments in the course are described in the “Grading” section of the syllabus.

COURSE MATERIALS & PLATFORMS
There are no course materials or books to purchase for this course. All materials will be provided on the following online platforms:

- **Canvas**: This is the main online platform for this course. You can access the other online platforms via Canvas (Perusall, GradeCraft, Zoom). All course materials are available on Canvas under “Files.” Every Tues at the start of a new class week, there will be a summary for the week posted under “Announcements.” Please check these announcements weekly (Tues 4:30pm). The lecture videos for that week will be linked in Announcements; the videos will also be saved under Files. Periodically there will be prompts or questions posted under “Discussions” for students to discuss. Students are encouraged to post their own prompts or questions related to current events that tie into our course material. The links for drop-in office hours are located under “Zoom.” Using your camera video is encouraged, but not required. You can also use the “Chat” feature to ask quick questions during drop-in office hours as well.

- **Perusall**: This is the platform for collaborative reading. The course readings will also be available on Perusall as well. On this platform you can post questions or comments, help others by answering their questions and upvote good questions or comments to draw attention to your peers’ ideas. Discussing the readings on Perusall is one way to earn points in the course.

- **GradeCraft**: This is the platform to submit your assignments and to keep track of your grade in the course. GradeCraft uses the gameful learning approach so you can see your point progress throughout the semester.

ASSIGNMENT OPTIONS
Using the gameful learning approach, you will have the option to select which assignments you will want to complete. You will need to complete at least one assignment in each category. Grades and rubrics will be posted on GradeCraft. All assignment submissions should be submitted on GradeCraft as well. Your total points on GradeCraft will be translated into the following letter grades:

- A+: 1,300,000 points
- A: 1,000,000 points
- A-: 900,000 points
- B+: 800,000 points
- B: 700,000 points
- B-: 600,000 points
- C+: 500,000 points
- C: 400,000
All assignments are due Tuesdays at 4:30pm (i.e., the start of our class week) via GradeCraft.

Required readings for the course include:
- Case studies
- Articles from peer-reviewed journals
- Reports and book chapters from health informatics thought leaders

**INDIVIDUAL ASSIGNMENT OPTIONS**

*assignments marked with an asterisk require you to complete at least 1 submission in that category*

**Weekly Discussion Posts (25,000 points each week)**
Each week on Canvas (under “Discussion”) there will be a prompt or discussion posts to encourage conversation and reflection on current events that relate to our course material. Any student can also start their own discussion topic as well. Discussion posts related to the case competition can also earn points. Individual students can earn “badges” for outstanding, thoughtful comments (additional 10,000 points). You earn points for the quality of your discussion posts for the week. You are also expected to self log your discussion post grade on GradeCraft. The GSI will periodically check to make sure grades are logged appropriately.

**Perusall Reading Interactions (50,000 points each week)**
As you complete the assigned readings for the week, you are encouraged to leave your reading comments on the Perusall platform. You can access Perusall through Canvas. You can earn up to 50,000 points each week based on the quality and quantity of your reading interactions.

**Weekly Reflection Papers (50,000 points each)**
At the end of each week, you can submit a reflection paper based on one of the readings for that week. The reflection papers are open ended and there is no assigned prompt; you have the flexibility to choose the reading you want to respond or comment. Successful reflection papers are not summarizing the assigned reading, but applying the concepts to your own professional experiences, critiquing the authors’ argument or supporting the ideas in the paper. Each reflection paper should be about 1 page single spaced. You are required to submit at least one reflection paper throughout the semester.

**Module Paper (100,000 points each)**
At the end of each module, there will be a paper prompt that reflects the concepts discussed in each of the three modules. You are required to submit at least one module paper throughout the semester. Details for each of the prompts will be provided on GradeCraft.

**Case Competition Evaluation (20,000 points each)**
For each case competition, you will be asked to submit an evaluation form for the competing teams. These are due the following week that the case competition materials were first submitted.

**Guest Interview + Reflection Paper (125,000 points each)**
To encourage networking and career development, students are encouraged to conduct informational interviews with health informatics professionals. For this assignment, you are required to submit two parts: (1) a recorded interview and (2) written summary. For the recorded interview with your guest, you can create your own interview guide that will ideally include questions that relate to the content of our course materials and questions meaningful to your career goals. You should share your interview guide with your interviewee before conducting your interview. You will also need to have consent from your interviewee that you can record the session and share the session with the class. You should conduct the interview remotely via Zoom video or audio and include the closed captions on the recording. The interview should be about 25-45 minutes max. For the written summary, you will reflect on the interview and summarize highlights of what you learned from the interview. The written summary should be about 1-2 pages (single-
You can submit a maximum of 3 assignments in this category for points. You can submit your guest interview assignment at any point during the semester.

**GROUP ASSIGNMENT OPTION: CASE COMPETITIONS (200,000 points each)**

*each student should compete in at least one case competition team during the semester.*

Throughout the semester we will have an ongoing case competition for each of the case analyses presented in class. You can form your own case teams; you can keep the same teams throughout the semester or change to another team. You can use the Canvas "Discussion" page to find a case team or email the GSI for help finding a team. Teams can be a maximum of 5 students each with a maximum of 3 teams for each case.

The winning case team will be decided by the professor, GSI and student evaluation submissions. The winning case team will receive a bonus 20,000 points.

Your team will need to prepare (1) recorded presentation to share with the class, (2) a written case analysis, and (3) respond to questions in the asynchronous Q&A on Canvas Discussion.

(1) The presentation slides will be shared online for the entire class to view. Your team will upload your slides to GradeCraft and the GSI will compile the submission to share with the rest of the class. Please submit your presentation slides with recording by **Tuesday 4:30PM**. Your presentation should be no longer than 20 minutes viewing time.

(2) Your team will also submit a written case report (5-7 pages, single spaced) via GradeCraft.

(3) Optional: There will be an optional asynchronous "Q&A" for each competing case team held in the Discussion tab on Canvas. Students (including those from competing teams) can ask questions to the case team on their submitted case. Any member from the case team can answer questions posted in the corresponding Discussion thread.

**A note on group effort:** While we hope that all group members would strive to equally contribute to the group project, we realize that this is not always the case. Therefore, the grade you receive on the group assignment will depend on your contribution to the project, which will be determined by your fellow team members. This policy exists to discourage slackers or free riders. Specifically, each group member will individually and anonymously evaluate their team members’ contributions to the project. A link to the peer evaluation form will be provided on GradeCraft.

You will evaluate each team member on a scale of 4 (being the highest; participated and submitted quality work to the team) to 1 (being the lowest; no contribution to the assignment). The scores for each team member will be then be averaged, and your individual grade (% of total group grade) for a group assignment will be calculated as follows:

- 4 – 3.5 average = 100% of the total group grade
- 3.49 – 3 average = 95% of the total group grade
- 2.9 – 2.5 average = 85% of the total group grade
- below 2.5 average = 75% of the total group grade

For example, let’s say your team earns a 180,000 points on the case competition and your average group evaluation score is a 3.5. Then your individual score will be 100% full credit for the assignment (180,000 points). However, if your average group evaluation score is a 2.5, you would earn 153,000 points on the assignment (85% of the total points).

You will also include a brief explanation of your rating for each team member, including yourself. The evaluation form will not be shared with your team members. You will need to submit your peer evaluation form the day you submit your case competition assignment.
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 a particular comment, or if points were miscalculated. You may also visit me during office hours to discuss your grade or any questions to prepare for an assignment.

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 GradeCraft as a pdf unless stated otherwise. 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 name and the title of the assignment should appear on every page in the upper right hand margin and page numbers should appear in the lower right hand corner.

Late policy
Everyone is automatically granted a 24-hour grace period for submitting late assignments. However, 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.

What you can expect from me
- I will be available to you via e-mail and will promptly return your e-mail messages. Generally, I make an effort to respond within 48 hours; however I may be slower to respond depending on my volume of emails. Please keep in mind that I do not guarantee email replies over the weekend so 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 drop-in hours and available appointment slots listed in my Calendly link.
- 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 or the GSI.
- 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 individual assignments must be your own, original work. Group assignments must also be the original work from the group members. 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 (734) 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

Assignments due via GradeCraft on Tues at 4:30 PM.

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<tr>
<th>Module</th>
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<th>Session Details</th>
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| **MODULE 1** Health IT Implementation | Week 1  | Course Introduction  
Course Introduction  
Learning the Case Method |
|                                     | Jan 19  |                                                        |
|                                     | Week 2  | The Role of Leaders & Leadership                       |
|                                     | Jan 26  |                                                        |
|                                     | Week 3  | **Case Competition 1:** Mount Auburn Hospital*         |
|                                     | Feb 2   |                                                        |
|                                     | Week 4  | Decision making, crisis management, & cognitive biases  
**Case Competition 2:** Improving Access at the VA* |
|                                     | Feb 9   |                                                        |
|                                     | Week 5  | **Case Competition 3:** Computerized Provider Order Entry at Emory Healthcare* |
|                                     | Feb 16  |                                                        |
| **MODULE 2** Redesigning Care Delivery to Leverage Health IT | Week 6  | Operational Process Control & Performance Improvement  
Module Paper 1 Due |
|                                     | Feb 23  |                                                        |
|                                     | Week 7  | Using IT to Enable New Approaches to Care Delivery  
**Case Competition 4:** PatientsLikeMe: Using Social Network Health Data to Improve Patient Care* |
|                                     | Mar 2   |                                                        |
|                                     | Week 8  | Data-driven Care Management & Redesign  
**Case Competition 5:** Weathering the Storm at NYU Langone Medical Center* |
|                                     | Mar 9   |                                                        |
|                                     | Week 9  | Data-driven Care Management & Redesign (cont.)  
**Case Competition 6:** Learning About Reducing Hospital Mortality at Kaiser* |
|                                     | Mar 16  |                                                        |
|                                     | Week 10 | Well-Being Break (no class)                           |
|                                     | Mar 23  |                                                        |
| **MODULE 3** Innovating through Health IT | Week 11 | Creating and Managing Innovation  
Module Paper 2 Due |
|                                     | Mar 30  |                                                        |
|                                     | Week 12 | Creating and Managing Innovation (cont.)  
**Case Competition 7:** American Well: The Doctor Will E-See You Now* |
|                                     | Apr 6   |                                                        |
|                                     | Week 13 | Innovating within an Established Organization  
**Case Competition 8:** Stanford Medicine: Health IT Purchasing Decisions in a Complex Medical Organization* |
|                                     | Apr 13  |                                                        |
|                                     | Week 14 | Innovating in a Start-Up Environment  
**Case Competition 9:** GOQii: Envisioning a New Fitness Future* |
<p>|                                     | Apr 20  |                                                        |</p>
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| *Catch-Up Week* | Apr 23  | *Individual assignments (weekly reflection papers, module papers, guest interview/paper)* can be submitted up to Apr 23 for credit.  
*Module Paper 3 Due* |
MODULE 1: LEADING HEALTH IT IMPLEMENTATIONS

Week 1: Course Introduction
For the first week, please take the time to review the syllabus and the online platforms we will use in this class. You can use this week to get a jump start on forming case team, previewing the course readings, and troubleshooting any issues you have with the online platforms. There are no lecture videos for the first week.

There is one assigned reading to kick off our discussion via Perusall and Canvas Discussion board:

Week 2: The Role of Leaders and Leadership
CIOs are visible leaders in healthcare organizations and make key health IT strategy decisions. We will learn about the management challenges faced in this role, specifically in the context of leading a large EHR implementation.

What are the key challenges faced by a leader in the context of HIT implementation?


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


Week 3: Change Management
How do you manage change on an organization level?


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?

Framing for Learning
What does it mean to be a learning organization? How can leaders create a learning orientation? What are the different dimensions of framing for learning? What do they look like in practice?

**Case Competition #1:**

**Week 4: Decision making, crisis management, & cognitive biases**

**Case Competition #2:**

**Week 5: Leadership module wrap-up**


**Case Competition #3:**

**MODULE 2: REDESIGNING CARE DELIVERY TO LEVERAGE HEALTH IT**

**Week 6: Operational Process Control & Performance Improvement**

*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?*


**Week 7: 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?*


*Case Competition #4:*

**Week 8: Spring Break**
No Class - enjoy break!

**Week 9: Data Driven Care Management & Redesign**
*How can better access to real-time data be used to redesign care and improve outcomes?*


*Case Competition #5:*

**Week 10: Redesigning Care Delivery Wrap-Up**


*Case Competition #6:*

**MODULE 3: INNOVATING THROUGH HEALTH IT**

**Week 11: Creating and Managing Innovation**
*What is innovation? How do we know it when we see it? Are there different types of innovation?*


Week 12: Creating and Managing Innovation (cont.)
What is the process of innovation? How do you create innovation? What is the bottom-up approach to innovation? How do you lead and manage innovation?


*Case Competition #7:

Week 13: Innovating within an Established Organization
What are the key management dimensions of innovation? What challenges do healthcare organization leaders face when managing innovations?


*Case Competition #8:

Week 14: Innovating in Start-Up Environment
What management skills are required to produce and deliver healthcare innovations in a start-up environment? How, if at all, might digital technologies today change or disrupt healthcare (e.g., blockchain, artificial intelligence, telehealth, IoT, etc.)?


*Case Competition #9:*