Department of Health Administration and Policy

College of Public Health

Spring 2026

Syllabus	
Course Information	HAP 670: Introduction to Health Informatics Location: Online Asynchronized
Course Placement	**(X)** Core **( )** Concentration **( )** Elective **( )** Pre-requisite(s) **( )** *Course(s) recommended before taking this course*:
Instructor	Yikuan Li, PhD yli94@gmu.edu Office Hours by appointment or Zoom 7:30-9:00PM every Tuesday
Course Description	This course examines applications of information technology in healthcare. We consider a wide range of technology applications- from enterprise application systems to EHR (Electronic Health Records), to current trends in information technology and related regulatory initiatives. We examine how these technologies enable the healthcare industry to manage information and knowledge resources most effectively and deliver superior services to its customers.
Course Objectives	**At the conclusion of the course participants should be able to**: • Demonstrate an understanding of how information system technologies and health informatics tools support healthcare delivery, clinical decision-making, care management, and population health goals. • Understand health information systems design and management including planning, implementation, and evaluation methods. • Show a working knowledge of the healthcare delivery environment and policies that influence adoption and use of health information technologies, including standards and requirements (e.g., Meaningful Use, quality metrics). • Understand privacy and confidentiality of health information, information security practices, and how these requirements influence system design, usage, and business continuity and disaster recovery planning. • Gain practical knowledge of various health informatics tools and methods such as electronic medical records, workflow redesign, data visualization/dashboards, data analysis. • Gain exposure to principles and methods of data mining, natural language

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<tr><td></td><td>processing, networking, and information exchange.</td></tr>
<tr><td>Course Methodology</td><td>The online class format will combine reading, live sessions, discussions, presentations, and other learning tools. The class will be interactive and require every student to be engaged in the discussion and assignments. In addition to the lectures, live sessions and timely completion of assignments, every student will be expected to be an avid consumer of health informatics industry trends, an active participant and a dedicated individual applying what you learn to every element of the course work.</td></tr>
<tr><td>Required Textbook(s) and/or Materials</td><td>Hoyt, R.E & Hersh, W. R. (2018). Health informatics: Practical guide (7th ed.). Pensacola, FL: Informatics Education.
Tableau (Free; instructions will be provided via Canvas) or PowerBI or similar visualization tool.
Additional readings posted on the class Canvas page.
Reference Material: Biederman, S. & Dolezel, D. (2017). Introduction to healthcare informatics (2nd ed.). Chicago, IL: AHIMA
(Chapter 8: Implementing Healthcare Information Systems)</td></tr>
<tr><td>Course Requirement</td><td><u>Computer requirements</u>
This is an online course and students are expected to access content through the internet. You will need:
Reliable computer (PC or Mac) that allows course related resources, creating and viewing PowerPoint slides, using Excel, accessing email and Canvas. Note: Some Internet browsers are not compatible with Canvas.
Fast internet connection is needed to access videos.
It is students’ responsibility to install needed software and maintain updated computers needed to access course content. The instructor cannot provide computer service/support. If you do not have sufficient computer, you can request access to Health Informatics Learning Lab (HILL) or use one of computer labs at GMU accessible to students.</td></tr>
<tr><td>Course Evaluation</td><td>Teaching – Learning Strategies
Online Sessions
Assignments
Quizzes
Discussions
<table><tr><th>Grading Components</th><th>Percentage of Course Grade</th></tr><tr><td>Assignment and Quizzes</td><td>40%</td></tr><tr><td>Discussion</td><td>10%</td></tr><tr><td>Midterm</td><td>20%</td></tr><tr><td>Final</td><td>30%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
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Discussions:

Your challenge is to immerse yourself in the topics and perspectives presented in the course. You will want to be able to comment on the discussion topics with authority. You are encouraged to make notes on your own thoughts about the various concepts and issues and consider possible issues/outcomes. Your posts should be to the point and include sufficient technical detail for others to respond. You should present your opinions but justify them with facts and proper sources. What did you disagree with and why, or not understand?

Initial/Original Post

Please post what you view as the appropriate responses to the above prompts. Your initial post should be 150-300 words. Please provide response with a clear, well-formulated thesis, sentence structure, grammar, punctuation, and spelling count. Support all posts with appropriate rationale and citations from readings, appropriately document sources.

Responding to Others

Responses to at least two classmates' postings should be approximately 200 words and should be thoughtful, substantial, polite and more extensive than a simple "well done" phrase or "I agree." Consider points of agreement, disagreement, assumptions, and value judgments. You will be able to respond to others after you submit your initial post.

Instructions

Each student is required to make at least one original discussion post by Sunday at 11:55 PM (ET) of the assigned week and to respond to at least two classmates' posts by Sunday at 11:55 PM (ET) of the following week. Please review the Discussion Board Participation guidelines and rubric in the syllabus for grading criteria.

For example, if a discussion prompt is posted on Monday, Jan 12, your original post is due by Sunday, Jan 18 at 11:55 PM ET, and your responses to peers are due by Sunday, Jan 25 at 11:55 PM ET.

Assignments:

Instructions

Each week assignment is required to be uploaded to Canvas. Assignments are due by Sunday, 11:55 PM ET, unless otherwise stated. Refer to the course schedule and weekly overviews for details.

Do not copy-and paste form external sources or each other when submitting results (all assignments are checked for plagiarism). Plagiarism means an automatic F. Please familiarize yourself with the GMU policy on plagiarism and proper citation of materials. The plagiarism policy also applies to Discussion Board contributions.

Barring extraordinary circumstances contact your instructor prior to the assignment deadline to obtain instructor approval. Instructor approved assignments submitted late will have a deduction of five percent (5%) not exceeding five (5) days from the original due date. Note: this does not extend itself to weekly discussions.

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<td>Grading Scale</td>
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<tr><td>96 and above</td><td>A</td></tr>
<tr><td>90 - 95</td><td>A-</td></tr>
<tr><td>86 - 89</td><td>B+</td></tr>
<tr><td>80 - 85</td><td>B</td></tr>
<tr><td>76 - 79</td><td>B-</td></tr>
<tr><td>70 - 75</td><td>C</td></tr>
<tr><td>70 and below</td><td>F</td></tr>
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Letter Grading Descriptions:
Listed below are grades and academic standards for each grade awarded.

A = 96% and above
Clearly stands out as excellent work. An "A" grade work could be used as a model for other students to emulate. Shows excellent grasp of subject matter, conceptual integration, and excellent skills.

A- = 90-95%
Represents high quality performance. Shows excellent grasp of subject matter and conceptual integration. Shows a high level of thinking, analysis, application, and very good skills.

B+ = 86-89%
Represents very good work. Shows thorough grasp of subject matter and effective application. Shows good thinking, analysis, and good skills.

B = 80-85%
Represents satisfactory work. Shows adequate level of thinking, analysis, and satisfactory skills.

B- = 76-79%
Work is below graduate level expectations, skills are below expectation.

C = 70-75%
Work is clearly unsatisfactory.

F = 70% and below
Fails to meet minimum acceptable standards.
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<td>AI (Artificial Intelligence) Tools Policy</td>
<td>Strict Use Policy: The use of generative AI tools (e.g., ChatGPT, Claude, Gemini) is not permitted for any coursework in this class unless explicitly authorized. Unauthorized use will be treated as a violation of academic standards.</td>
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Academic Integrity	Academic Standards exist to promote authentic scholarship, support the institution's goal of maintaining high standards of academic excellence, and encourage continued ethical behavior of faculty and students to cultivate an educational community which values integrity and produces graduates who carry this commitment forward into professional practice. As members of the George Mason University community, we are committed to fostering an environment of trust, respect, and scholarly excellence. Our academic standards are the foundation of this commitment, guiding our behavior and interactions within this academic community. The practices for implementing these standards adapt to modern practices, disciplinary contexts, and technological advancements. Our standards are embodied in our courses, policies, and scholarship, and are upheld in the following principles: · Honesty: Providing accurate information in all academic endeavors, including communications, assignments, and examinations. · Acknowledgement: Giving proper credit for all contributions to one's work. This involves the use of accurate citations and references for any ideas, words, or materials created by others in the style appropriate to the discipline. It also includes acknowledging shared authorship in group projects, co-authored pieces, and project reports. · Uniqueness of Work: Ensuring that all submitted work is the result of one's own effort and is original, including free from self-plagiarism. This principle extends to written assignments, code, presentations, exams, and all other forms of academic work. Violations of these standards—including but not limited to plagiarism, fabrication, and cheating—are taken seriously and will be addressed in accordance with university policies. The process for reporting, investigating, and adjudicating violations is outlined in the university's academic standards procedures. Consequences of violations may include academic sanctions, disciplinary actions, and other measures necessary to uphold the integrity of our academic community. The principles outlined in these academic standards reflect our collective commitment to upholding the highest standards of honesty, acknowledgement, and uniqueness of work. By adhering to these principles, we ensure the continued excellence and integrity of George Mason University's academic community. Student responsibility: Students are responsible for understanding how these general expectations regarding academic standards apply to each course, assignment, or exam they participate in; students should ask their instructor for clarification on any aspect that is not clear to them.

Accommodation for Students with Disabilities	Disability Services at George Mason University is committed to upholding the letter and spirit of the laws that ensure equal treatment of people with disabilities. Under the administration of University Life, Disability Services implements and coordinates reasonable accommodations and disability-related services that afford equal access to university programs and activities. Students can begin the registration process with Disability Services at any time during their enrollment at George Mason University. If you are seeking accommodations, please visit the Disability Services website for detailed information about the Disability Services registration process. Disability Services is located in Student Union Building I (SUB I), Suite 2500. Email: ods@gmu.edu . Phone: (703) 993-2474. **Student responsibility**: Students are responsible for registering with Disability Services and communicating about their approved accommodations with their instructor in advance of any relevant class meeting, assignment, or exam
E-mail Policy	Mason uses electronic mail to provide official information to students. Examples include notices from the library, notices about academic standing, financial aid information, class materials, assignments, questions, and instructor feedback. Students are responsible for the content of university communication sent to their Mason e-mail account and are required to activate that account and check it regularly. Students are also expected to maintain an active and accurate mailing address in order to receive communications sent through the United States Postal Service.
Title IX Resources and Required Reporting	As a part of George Mason University's commitment to providing a safe and non-discriminatory learning, living, and working environment for all members of the University community, the University does not discriminate on the basis of sex or gender in any of its education or employment programs and activities. Accordingly, all non-confidential employees, including your faculty member, have a legal requirement to report to the Title IX Coordinator, all relevant details obtained directly or indirectly about any incident of Prohibited Conduct (such as sexual harassment, sexual assault, gender-based stalking, dating/domestic violence). Upon notifying the Title IX Coordinator of possible Prohibited Conduct, the Title IX Coordinator will assess the report and determine if outreach is required. If outreach is required, the individual the report is about (the "Complainant") will receive a communication, likely in the form of an email, offering that person the option to meet with a representative of the Title IX office. For more information about non-confidential employees, resources, and Prohibited Conduct, please see University Policy 1202: Sexual and Gender-Based Misconduct and Other Forms of Interpersonal Violence. Questions regarding Title IX can be directed to the Title IX Coordinator via email to TitleIX@gmu.edu , by phone at 703-993-8730, or in person on the Fairfax campus in Aquia 373. **Student opportunity:** If you prefer to speak to someone confidentially, please contact one of Mason's

	confidential employees in Student Support and Advocacy (SSAC), Counseling and Psychological Services (CAPS), Student Health Services (SHS), and/or the Office of the University Ombudsperson.

Appendix A

Mapping of Course Objectives to Specific Program Competencies

A. Health Informatics Competencies

Course Objectives	CAHIIM Competencies
1. Demonstrate an understanding of how information system technologies and health informatics tools support healthcare delivery, clinical decision-making, care management, and population health goals.	1. Demonstrate an understanding of how information system technologies and health informatics tools support healthcare delivery, clinical decision-making, care management, and population health goals.
	I. Information Systems; 2. Health information systems characteristics, strengths and limitations
	I. Information Systems; 7. Health information exchanges (HIE)
	II. Informatics; 7. Biomedical simulations
	II. Informatics; 9. Human-computer interface
	II. Informatics; 10. Principles of health information systems data storage design, including patient-centered

2. Understand health information systems design and management including planning, implementation, and evaluation methods	I. Information Systems; 3. Health information systems assessment methods and tools
	I. Information Systems; 12. Management of information systems including life cycle analysis, system design, planning methods and tools
	I. Information Systems; 15. Human factor engineering, work organization and tools
	I. Information Systems; 16. Strategic planning
	I. Information Systems; 17. Project planning and management
	I. Information Systems; 18. Change management
	I. Information Systems; 21. Policy development and documentation
	I. Information Systems; 22. Personnel management, negotiation, communication skills, business ethics, leadership and governance
	III. Information Technology; 9. Health Information technology: systems architecture, database design, data warehousing
	III. Information Technology; 11. Information technology (IT) system documentation
	III. Information Technology; 13. Virtual network applications and storage (such as cloud computing)
3. Show a working knowledge of the healthcare delivery environment and policies that influence adoption and use of health information technologies, including standards and requirements (e.g., Meaningful Use, quality metrics)	I. Information Systems, 1. Healthcare delivery systems, organization, governance and workflow
	I. Information Systems; 5. Health IT standards
	I. Information Systems; 6. Use of healthcare terminologies, vocabularies and classification systems
	II. Informatics; 1. History of health informatics development and health informatics literature
4. Understand privacy and confidentiality of health information, information security practices, and how these requirements influence system design, usage, and business continuity and disaster recovery planning	I. Information Systems; 9. Patient rights and associated regulations
	I. Information Systems; 10. Privacy and confidentiality of patient health information
	I. Information Systems; 11. Information security practices

	III. Information Technology; 12. Business continuity and disaster recovery

B. Healthcare Management Competencies

Course Objectives	CAHME Competencies
1. Demonstrate an understanding of how information system technologies and health informatics tools support healthcare delivery, clinical decision-making, care management, and population health goals	**1.6. Population Health Management:** Understand the goals and methods for population health management including the definition and measurement of health outcomes, patterns of health determinants and the policies and interventions that link these two.
2. Understand health information systems design and management including planning, implementation, and evaluation methods	**1.11. Innovation and Technology:** Ability to evaluate and effectively implement new scientific technological and managerial innovations.
	4.4 Information Systems Management: Employ sophisticated information system technologies and data analytics that support care management and strategic population health initiatives facilitate communication to improve clinical decision making, enhance patient safety, engage consumers and support the delivery of personalized care.
3. Show a working knowledge of the healthcare delivery environment and policies that influence adoption and use of health information technologies, including standards and requirements (e.g., Meaningful Use, quality metrics)	**4.4 Information Systems Management**: Employ sophisticated information system technologies and data analytics that support care management and strategic population health initiatives, facilitate communication to improve clinical decision making, enhance patient safety, engage consumers and support the delivery of personalized care.
4. Understand privacy and confidentiality of health information, information security practices, and how these requirements influence system design, usage, and business continuity and disaster recovery planning	**4.4 Information Systems Management:** Employ sophisticated information system technologies and data analytics that support care management and strategic population health initiatives, facilitate communication to improve clinical decision making, enhance patient safety, engage consumers and support the delivery of personalized care.
6. Gain exposure to principles and methods of data mining, natural language processing, and information exchange	**1.11. Innovation and Technology:** Ability to evaluate and effectively implement new scientific technological and managerial innovations.