



GERO-521: HEALTHCARE AND TECHNOLOGY

Effective Term

Spring 2025

BOT Approval Date

04/11/2024

Discipline

GERO - Gerontology-Aging Studies

Course Number

521

Course Title

Healthcare and Technology

Short Title

Healthcare and Technology

Credit Status (CB 04)

D - Credit - Degree applicable

Units**Lecture Units**

3.00

Total Units

3

Hours**Lecture Contact Hours**

48-54

Out of Class Hours Lecture

96-108

Total Contact Hours

48 - 54

Total Out of Class Hours

96 - 108

Total Student Learning Hours

144 - 162

Distance Education

Yes

Distance Education**Distance Education Type**

Both Fully Online and Hybrid Online

Fully Online Delivery Requirements:

- a. Students must be notified via the college schedule of classes and the syllabus for the class if proctored tests are required for this course
- b. Any planned face-to-face meetings, such as an orientation or study session, must be optional

c. The MSJC curriculum committee requires the use of accessible, asynchronous discussion as a component of every fully online course

Are you using publisher content?

No

Regular Substantive Interaction

Instructor-to-student, student-to-student, and student-to-content contact shall be distributed in a manner that will ensure regular substantive interaction (RSI) is maintained not only weekly but also for the duration of the course. Instructor interactions should be equivalent in time, quality and consistency to the engagement students would receive in a face-to-face course—for example, through announcements, discussion participation, personalized feedback, video messages, or other instructional communications. Instructors are expected to be responsive to student inquiries within a 24-72 hour time frame excluding holidays. RSI will be maintained through a variety of methods:

- Orientation - Students must be oriented to the online and face-to-face portions at the start of the course.
- Announcements - Announcements using the course management system must be posted at least weekly to keep students current on course events, due dates, materials, etc.
- Discussion Forums - Content-related discussion forums within the designated CMS will include appropriate instructor participation and will be initiated and maintained, with timely feedback provided. Instructors are required to monitor the discussions and related activities to provide guidance and direction. Open-ended discussion boards may be used to further learning and interaction.
- MSJC Communication – Instructor will use MSJC-administered communication tools (such as email or the designated CMS communication tools) to regularly communicate with and provide ease of access to students.
- Timely Feedback - Timely feedback on student work will be provided by the instructor, which may include comments and/or rubrics, within the Grades area of the designated CMS.
- Scheduled Meetings – Hybrid and synchronous courses will meet at regularly scheduled times.

ADA Compliance - All course interactions and content must be designed with accessibility in mind and meet ADA requirements.

Additional Regular Substantive Interaction

Discussion boards- Course and technical issues are addressed in a separate discussion board. It is recommended that faculty will respond within 48 hours, except for holidays and weekends.

E-mail Communication - E-mail may reinforce announcements and discussion board communication. It is recommended that the faculty will respond within 48 hours, except for holidays and weekends.

Catalog Description

This course introduces healthcare settings and addresses the professional role in healthcare delivery systems. Students will be introduced to the technology used in healthcare for administrative, clinical, and facility needs. Support systems for healthcare are also discussed.

Attach Supporting Documents

Sample Program Map Gerontology with Gerotechnology Certificate of Achievement (Revised April 2023).pdf

Riverside County Office on Aging Report.pdf

California Master Plan for Aging.pdf

AGHE Competencies.pdf

Centers for Excellence LMI_Gerontology.pdf

Occupational Outlook_ Social and Community Service Managers _ US Bureau of Labor Statistics.pdf

Deans Meeting_Gerontology-Aging Studies.pdf

Codes

TOP Code (CB 03)

1309.00* - *Gerontology

CIP Code

30.1101 - Gerontology.

Repeatability Code

No

Grading Option

Letter grade OR P/NP

Learning Objectives

Learning Objectives

Learning Objective

1. Understand information systems, medical technology, and support systems used in the healthcare continuum, with particular emphasis the long-term care continuum
2. Identify major trends in healthcare information and healthcare technology.
3. Contrast individuals and organizations with healthcare technology used in the United States, and how it impacts healthcare decisions on both national and regional levels, with sensitivity to access and equity.
4. Explain future opportunities and challenges in the health industry information systems, technology, and support systems.
5. Explore the impact technology has on the delivery of services
6. Discuss health data analysis and its uses in healthcare
7. Identify current uses of information technology in administrative, clinical, decision support, and ancillary services
8. Examine the impact of data collection on the experience of minority elders in terms of accessing healthcare, institutional planning and programming, and treatment planning.

Learning Outcome Information

Course Learning Outcomes

Learning Outcome

1. Students will acquire knowledge of current trends health information management operations, compliance with standards, regulations and accrediting body initiatives.
2. Students will gain insights into the application and management of electronic health records.
3. Students will analyze and discuss the ethical issues related to electronic healthcare records.
4. Students will demonstrate an understanding of health information management, healthcare organizations, professions and trends.

Program Learning Outcomes

Learning Outcome

- Student will demonstrate knowledge of relationships among older adults, their families, and society.
- Student will apply current theory and research in the interdisciplinary field of gerontology and its role in society to assess biological, social, and psychological issues that impact older adults and those who work with and care for them.
- Student will integrate information and perspectives from various disciplines to understand the biological, social, and psychological aspects of aging related to diversity and equity shape the experience of aging.
- Student will demonstrate the ability to conduct and evaluate gerontological information and research using a variety of methods.
- Student will understand and evaluate social policy and its impact on programs and services for older adults and examine how issues.
- Student will express ideas effectively in oral and written formats.
- Student will analyze critical issues, aspects of ageism in American society and socially conscious behavior regarding the older population and apply knowledge to the field of aging.
- Student will apply acquired interdisciplinary knowledge of older adults in varied career applications, such as the design of services for older adults, patient care, and engineering and technology for independent living.

Institutional Learning Outcomes

Communication: The student will effectively express and exchange ideas through listening, speaking, reading, writing, visual works, and other modes of interpersonal expression.

Cultural Awareness and Humility: The student will demonstrate knowledge of and sensitivity toward individuals of diverse ethnicity, age, gender, sexual orientation, and religious affiliations, as well as toward those individuals with diverse abilities and socio-economic classes to respectfully interact with individuals of diverse perspectives, beliefs and values while being mindful of the limitation of their own cultural frameworks.

Social Awareness: The student will recognize and analyze the interconnectedness of global, national, and local concerns, analyzing cultural, political, social, and environmental issues from multiple perspectives and appreciate similarities and differences among cultures.

Content

Course Lecture Content

1. Introduction to Information systems in the delivery of healthcare.
 - a. The impact technology has on healthcare.
 - b. Ethical considerations of technology and the use of information systems.
 - c. Data collection and the macro considerations on healthcare delivery.
 - i. Concerns about equity and access to healthcare.
 - ii. Demographic distributions and healthcare rationing.
2. Healthcare and medical terminology
 - a. Understanding Latin prefixes, suffixes, and roots.
 - b. Identifying the most common medical terminology
 - c. Documentation and records
 - d. Understanding and applying the Health Information Patient Privacy Act (HIPPA).
3. Healthcare technological research and advancements.
 - a. Health Technology and Applications
 - b. Choosing and Using Information Systems
 - c. Electronic health records and clinical informatics.
4. Multimodality Data Collection
 - a. Differences between different data collection modalities
 - b. Processes and application of multi-modal data and machine learning.
 - i. Data-driven decision-making in healthcare.
5. Mobile Health
 - a. Using mobile computing for remote monitoring
 - b. Using technology to measure health systems efficacy
6. Machine learning algorithms for data analysis
 - a. Big data analysis tools and evaluation metrics
7. Application of Sensory Enhancement Technology for Human-Computer Interactions
 - a. Vision-Based (virtual reality)
 - b. Smartphone Communication for Remote Telemetry
8. Limitations of Healthcare Technology
 - a. Patient engagement
 - i. Digital competency.
 - ii. Lack of access to technology
 - b. Network of connected healthcare providers
 - i. Disconnected between providers
 - ii. Training and utilization
9. Using informatics to promote community and population health
 - a. Social and Financial Implications
 - b. Influences of data collection and large-data models on healthcare in terms of diversity, equity and inclusion
 - i. Data determining course of treatment based on etiology of illness in minority populations

Methods of Instruction

Method

Lecture

Integration

Lectures will serve as the platform for introducing theoretical perspectives on data management and ethics, as well as delving into the contemporary challenges associated with data security, storage, integration, and privacy and the ethical considerations of how data is utilized to determine healthcare decisions for minorities or at-risk or underrepresented older adults.

These lectures, enriched with video presentations and supplemental resources drawn from both academic and industry sources, aim to provide students with a comprehensive understanding of the historical context, current landscape, and the future possibilities of healthcare technology, encompassing facets like medical records and data collection.

The instructor will also navigate students through the intricate terrain of ethics and legal rights, highlighting their significance in the realm of data collection. By intertwining both legal and technological concepts, students will be equipped to grasp the multidimensional nature of this vital subject matter.

DE Adaptations for MOI

Lectures can be communicated through the CMS in a variety of formats, including accessible Powerpoint presentations and lecture videos. Websites and online videos can be incorporated as part of these lectures. Lectures can be delivered through video conferencing platforms and the CMS to meet requirements for accessibility.

Method

Discussion

Integration

The discussions surrounding data management and ethics, as well as the utilization of data in healthcare resource allocation, are inherently sensitive and demand students to acquire the skill of articulating their ideas concisely, all while adhering to the context of the assignment. Possible topics will include: how health data collection methods can be designed to ensure equitable representation of diverse demographics among older adults; strategies to overcome biases in health data that may disproportionately affect certain groups; the importance of culture competence in health data collection; best practices of involving older adults and their communities in the design and implementation of health data collection initiatives; and best practices for ensuring the security of health data collected from older adults.

These discussions serve as a platform for students to share insights, exchange ideas, and present their findings related to the ever-evolving field of healthcare technology. They must communicate their comprehension of course objectives, and in this environment, it is vital for them to feel secure and respected when expressing differing views.

Topics within these discussions encompass ethical considerations concerning data usage, the methodologies for gathering and storing information, as well as sharing recent discoveries pertaining to data interpretation, software systems, and structural changes in data integration. The guidelines for participating in discussion boards are designed to meet accessibility requirements, ensuring inclusivity for all students.

All communication, whether within discussions or other course-related activities, will be facilitated through a course management system (CMS), streamlining the process and ensuring a consistent and accessible communication platform for all students.

DE Adaptations for MOI

Student discussion will be achieved using asynchronous threaded discussions with other students and the instructor within the CMS, or by participating in synchronous discussions using accessible video conferencing platforms. Students can also be divided into breakout groups during synchronous group meetings to compare their ideas before being brought back to the main session to compare their ideas as a class using the CMS to meet accessibility standards.

Method

Visiting Lecturers

Integration

Guest speakers from the industry may be invited to offer lectures on healthcare technology in order to enhance student learning and offer them exposure to various perspectives within the field. Potential visiting lectures may come from hospitals, medical systems, information technologists, and cyber security providers.

DE Adaptations for MOI

Guest Speakers can join online classes via CMS video conferencing. It can be synchronous or asynchronous. Instructors may also elect to post videos/media interviews of guest speakers with closed captioning, and meet accessibility requirements.

Method

Reading

Integration

Textbooks serve as valuable resources for establishing foundational knowledge, while the majority of innovations in data management and discussions on contentious subjects like medical ethics and data-driven healthcare decisions are typically found in contemporary literature. Both resources play significant roles in providing a comprehensive context for understanding these topics.

Relevant readings can be conveniently accessed through materials available in the course management system (CMS) or the assigned textbooks. Alternatively, students have the option to explore current research via MSJC's online library collections.

Moreover, certain assignments and projects related to the course readings may incorporate asynchronous threaded discussions in Discussion Boards. In these discussion boards, students have the opportunity to compare their insights from the readings, exchange ideas regarding research projects, or share resources and websites relevant to the course materials.

Discussion boards also offer a platform for students to address common issues related to their projects, including Q & A forums, where they can seek clarifications or pose questions about the readings or assignments. Instructors and peers can respond within the CMS, ensuring that the platform adheres to accessibility standards and provides a robust environment for collaborative learning.

DE Adaptations for MOI

Relevant readings can be delivered through materials provided in the CMS or the assigned texts, or students can access current research through MSJC's online library collections. Some papers and projects related to class readings may also use asynchronous threaded discussions in Discussion Boards, where students can compare their ideas from a reading and also compare research projects or share resources or websites related to reading content. Students can also use discussion boards to share common issues related to the project, such as Q & A forums where students can ask questions about the reading or project, and the instructor or other student can answer on the CMS to meet accessibility standards.

Methods of Evaluation

Method

Class Participation

Integration

Active and effective participation is essential for students to gain insights not only into the technological requirements and expectations for health data collection and utilization but also into the ethical considerations surrounding decision-making solely based on data. It is crucial to highlight the potential pitfalls of collecting and making decisions without considering cultural context and recognizing the wide variance in older individuals in terms of diversity and cultural background.

In a field where data management and its associated technology are swiftly advancing, students must stay actively engaged in the course to remain informed and relevant. Participation in discussion boards and research papers becomes paramount in staying current in this rapidly evolving landscape.

Class participation serves as a vital measure of student learning. Students are expected to actively contribute to discussions, research endeavors, and applications of health systems technology, considering both the legal and social implications of data collection and utilization.

Their participation will be assessed based on their ability to demonstrate a clear understanding of the concepts introduced in lectures and discussions. This involves actively engaging in online activities that directly apply their newly acquired knowledge and presenting compelling arguments to substantiate their findings on specialized topics. This multifaceted approach ensures that students not only comprehend the technical aspects of health data but also grasp the ethical considerations and broader implications for diverse older populations.

DE Adaptations for MOE

Discussion forums and blogs within the CMS can be utilized to assess class participation in asynchronous courses and video conferencing tools can be utilized for synchronous online course meetings (i.e. CCCConfer, Zoom, etc.). The instructor will employ available accessibility features within the CMS to ensure equitable access for all students during the evaluation process.

Method

Exams/Tests

Integration

Periodic short objective tests of course-related learning objectives will be administered and graded for accuracy. Testing formats may be objective (true/false, multiple choice or short answer) or long essay response. Quizzes/exams may be graded manually or via auto-grading process (w/in CMS or via scantron). The instructor will provide correct responses, comments, and grades within two weeks of the due date of these quizzes within the gradebook using the CMS.

DE Adaptations for MOE

Unit quizzes offered through CMS will assess course learning objectives. Using accessible tools, including objective tests, closed-caption video responses, or other accessible technology, students will demonstrate understanding of core course competencies. Quizzes should be timed, open book/note, focusing on course learning objectives. Quizzes may be graded manually by the instructor or through the CMS auto-grading system. The instructor will provide correct responses, comments, and grades within two weeks of the due date of these quizzes within the gradebook using the CMS.

Method

Papers

Integration

Students will actively engage in researching current technological issues surrounding health data collection and utilization. This involves a thorough investigation into the significance of integrating and understanding various factors such as ethnicity, culture, gender, religious practice, economic status, and disability. Recognizing the direct impact of these factors on the effectiveness of data utilization, students will explore how these elements shape policies and programming in the healthcare domain.

Furthermore, students will conduct independent research on contemporary topics related to healthcare technology, emphasizing ethical and legal considerations, emerging technologies, and their direct application. Clear instructions and rubrics will be provided to ensure a transparent and structured approach to their research papers.

The evaluation of these papers will be based on criteria such as correctness, clarity, completeness, and precision. Within two weeks of the assignment's due date, students can expect to receive both a grade and constructive feedback from the instructor. These assessments and feedback will be accessible through the course management system (CMS) gradebook, offering a timely and transparent assessment process for ongoing student development.

DE Adaptations for MOE

Evaluation of student application of concepts will be submitted via CMS. Rubrics/clear instructions will be provided. The instructor will employ available accessibility features within the CMS to ensure equitable access for all students during the evaluation process. Papers will be evaluated through correctness, clarity, completeness, and precision. The student will receive a grade and feedback from the instructor within two weeks of the assignment's due date within the gradebook using the CMS.

Method

Oral Presentation

Integration

Evaluation of student application of concepts will be submitted via CMS. Rubrics/clear instructions will be provided. Video presentations will be evaluated through correctness, clarity, completeness, and precision. The instructor will employ available accessibility features within the CMS to ensure equitable access for all students during the evaluation process. The student will receive a grade and feedback from the instructor within two weeks of the assignment's due date within the gradebook using the CMS.

DE Adaptations for MOE

Evaluation of student application of concepts will be submitted via CMS. Rubrics/clear instructions will be provided. Video presentations will be evaluated through correctness, clarity, completeness, and precision. The student will receive a grade and feedback from the instructor within two weeks of the assignment's due date within the gradebook using the CMS.

Assignments**Assignment Type**

Writing

In-class and/or outside of class

Outside of class

Formative or Summative

Formative

Assignment

Assignment Description:

The World Health Organization (WHO) has stated that every person should have access to quality affordable health care (<https://www.who.int/campaigns/world-health-day/world-health-day-2019/> (Links to an external site.)) In this paper, students will use the WHO's description of what is meant by universal health coverage (UHC) [https://www.who.int/news-room/fact-sheets/detail/universal-health-coverage-\(uhc\)](https://www.who.int/news-room/fact-sheets/detail/universal-health-coverage-(uhc)) (Links to an external site.) to critique the US health system. Students will address the role technology plays in the discussion on healthcare coverage, access, and equity. Specific attention should be paid to the importance of integrating culture, gender, disability, economic status, language barriers and other barrier into any healthcare programming.

1. Define and describe the WHO's vision of Universal Health Coverage.
2. Critique (using examples from you assignments and readings) the US health system in light of the WHO's view of UHC and their goals for universal health coverage (e.g. Where is the US health system falling short? Where is it succeeding?)
3. Discuss how applying a human-rights based approach and principles of UHC would fix some of the issues with cost, quality, access, and equity that plague the US healthcare system.
4. Describe your vision for the role technology plays in a better US healthcare system.

Evaluation:

Student work will be evaluated based on the provided rubric, and feedback will be submitted through CMS no later than two weeks after the due date.

How assignment will be adapted in online format

Evaluation of student application of concepts will be submitted via CMS. Rubrics/clear instructions will be provided. Papers will be evaluated through correctness, clarity, completeness, and precision. The student will receive a grade and feedback from the instructor within two weeks of the assignment's due date within the gradebook using the CMS.

Assignment Type

Writing

In-class and/or outside of class

Outside of class

Formative or Summative

Formative

Assignment

Assignment Description:

Written and Oral Presentation - What's Up with Healthcare Technology?

There are many topics of interest to you related to healthcare and technology. This is your chance to explore some of these topics. Select a scholarly, peer-reviewed article from the MSJC library database. The article must focus on aging and technology. You will write a summary/analysis of the article. Direct the summary toward readers who have not read the article being summarized. Remember that summaries give main points or facts in a condensed form.

Purpose:

1. To explore current thoughts and facts on topics that are pertinent to your interests in technology.
2. To help you analyze, synthesize, organize, and communicate information you've read on a given topic into coherent, useable thoughts to use in discussions and papers.
3. To provide you with the opportunity to practice your writing skills in a short paper.
4. To provide you with the opportunity to receive feedback on your writing analysis skills.

You will submit a 1-2 page summary of your findings, and develop a 2-3 minute oral presentation that will be recorded using the video tools integrated into the CMS, and posted to the Discussion board for viewing by classmates.

Submit your summary to the instructor via the CMS assignments link included in the instructions.

Submit your video to the discussion board on the CMS.

Evaluation:

Student submissions will be evaluated based on the rubric provided. Feedback from instructor will be published no later than two weeks after the due date, via the grade book integrated into the CMS.

How assignment will be adapted in online format

Evaluation of student application of concepts will be submitted via CMS. Rubrics/clear instructions will be provided. Papers will be evaluated through correctness, clarity, completeness, and precision. The student will receive a grade and feedback from the instructor within two weeks of the assignment's due date within the gradebook using the CMS.

Assignment Type

Reading

In-class and/or outside of class

In-class

Formative or Summative

Summative

Assignment

Assignment Description: Case Study - Care Coordination Improved through Health Information Exchange

Each student in class will be presented with one unique case study that explains the process and outcomes of a study done by the Centers for Medicare and Medicaid (CMS) that examines the potential for using a healthcare information exchange to improve women's healthcare in Scarborough, ME.

Reading: "Care Coordination Improved through Health Information Exchange" (2017) Office of the National Coordinator for Health Information Technology (ONC)

Lv, Z., & Qiao, L. (2020). Analysis of healthcare big data. Future Generation Computer Systems, 109, 103-110.

After reading the case study, you will participate in an asynchronous discussion board identifying key concepts that were identified in the literature, looking for commonalities or distinct differences. In the body of the discussion post, you must identify the key clinical information, summarize the results of the study, and describe at least one element of the study that aligns with the theory from the lecture.

Evaluation:

Rubrics/clear instructions will be provided. Papers will be evaluated through correctness, clarity, completeness, and precision. The student will receive a grade and feedback from the instructor within two weeks of the assignment's due date within the gradebook using the CMS.

How assignment will be adapted in online format

Evaluation of student application of concepts will be submitted via CMS. Rubrics/clear instructions will be provided. Papers will be evaluated through correctness, clarity, completeness, and precision. The student will receive a grade and feedback from the instructor within two weeks of the assignment's due date within the gradebook using the CMS.

Assignment Type

Reading

In-class and/or outside of class

In-class

Formative or Summative

Formative

Assignment

Let's get real.

Data management is a necessary part of healthcare decision making, but it comes with challenges- both in terms of innovation and technology, but also in how we collect and utilize the information. Please review the following discussion questions, and pick one that you wish to investigate and share your findings.

Post your thoughts, approximately 150 words, being sure to include at least one resource from a scholarly journal or other credible source. When you have posted your own work, spend time reviewing your classmates' posts and respond to at least TWO with substantive feedback.

What is a "credible source?" Start looking at these articles, and use them as foundation for starting your own research:

Sundgren, S., Stolt, M., & Suhonen, R. (2020). Ethical issues related to the use of gerontechnology in older people care: A scoping review. *Nursing ethics*, 27(1), 88-103.

Colnar, S., Dimovski, V., Grah, B., Rogelj, V., & Bogataj, D. (2020, September). Gerontechnology: Literature Review and Research Agenda. In 2020 59th Annual Conference of the Society of Instrument and Control Engineers of Japan (SICE) (pp. 391-396). IEEE.

Anderberg, P. (2020). Gerontechnology, digitalization, and the silver economy. *XRDS: Crossroads, the ACM Magazine for Students*, 26(3), 46-49.

1. Privacy Concerns in Health Data Collection:

- Discuss the ethical considerations and privacy concerns associated with collecting health data from older adults.
- Explore the balance between collecting valuable health information and respecting the privacy rights of individuals.

2. Equity and Inclusivity in Health Data Collection:

- Examine how health data collection methods can be designed to ensure equitable representation of diverse demographics among older adults.
- Discuss strategies to overcome biases in health data that may disproportionately affect certain groups.

3. Cultural Sensitivity in Health Data Collection:

- Explore the importance of cultural competence in health data collection and how cultural differences might impact the accuracy and relevance of collected information.
- Discuss best practices for tailoring data collection approaches to different cultural contexts.

4. Digital Literacy and Access Issues:

- Examine how digital literacy levels can influence the ability of older adults to participate in health data collection initiatives.
- Discuss strategies to enhance digital literacy among older populations and ensure access to technology for data collection purposes.

5. Community Engagement in Health Data Collection:

- Explore the benefits of involving older adults and their communities in the design and implementation of health data collection initiatives.
- Discuss strategies to engage older adults in the data collection process to ensure their perspectives are accurately represented.

6. Security Measures and Data Protection:

- Discuss best practices for ensuring the security of health data collected from older adults.
- Explore technologies and policies that can safeguard sensitive health information and protect against potential breaches.

7. Interdisciplinary Collaboration:

- Explore the role of interdisciplinary collaboration in health data collection for older adults.
- Discuss how collaboration between healthcare professionals, researchers, and technology experts can lead to more comprehensive and accurate data.

8. Patient-Centered Approaches:

- Discuss the importance of adopting patient-centered approaches in health data collection, ensuring that the preferences and needs of older adults are prioritized.
- Explore ways to involve older adults in decision-making regarding the collection and use of their health data.

9. Legal and Ethical Considerations:

- Explore the legal and ethical frameworks surrounding health data collection for older adults.
- Discuss how existing laws and ethical guidelines may need to evolve to address emerging challenges in the digital health landscape.

10. Data Governance and Standardization:

- Discuss the importance of establishing clear data governance policies and standards in health data collection for older adults.
- Explore how standardization can enhance the quality, interoperability, and security of collected health information.

How assignment will be adapted in online format

Evaluation of student application of concepts will be submitted via CMS. Rubrics/clear instructions will be provided. Papers will be evaluated through correctness, clarity, completeness, and precision. The student will receive a grade and feedback from the instructor within two weeks of the assignment's due date within the gradebook using the CMS.

Course Materials

Textbooks

Winter, A, et. al., Health Information Systems- Technological and Management Perspectives, Open Access Springer Publications, 2023. ISBN: 978-3-031-12310-8

Or

Mastrian, K., McGonigle, D. (2021). Informatics for Health Professionals. Jones & Bartlett Learning.

Other Resources

Publication Manual of the American Psychological Association (7th ed) (2019), Washington DC: American Psychological Association

Class Size Information

Class Size

40

Class Size Category

A - Lecture/discussion 40

Diversity and Inclusion

Explain how diversity and inclusion(e.g., gender, culture/race, sexuality, etc.) is infused into the course.

Professionals in healthcare and technology must possess a comprehensive understanding of the aging journey and the ethical use of data for effective care and services.

The ultimate goal of aging education is to foster healthy aging across a spectrum of individuals, communities, and societies through pioneering leadership and innovative approaches in research, education, and practice. Within this course, students will explore the vast potential of data management in technology and grapple with the ethical challenges faced by those entrusted with managing this data. Moreover, they will delve into how data profoundly influences a diverse older adult population.

In the realm of gerontology, we embrace a profound commitment to addressing diversity, equity, and inclusivity issues across the entire lifespan. This course, in particular, spotlights ethical considerations tied to barriers that older adults may confront when seeking access to quality care.

Gerontology examines diversity, equity, and inclusivity issues across the lifespan as such issues of diversity, but in the case of this course, specific ethical considerations must be addressed related to cumulative disadvantage and other barriers to care for the older population.

Describe how assignments, instruction, evaluation, course content, and interactions are contextualized for diverse learners promoting an equitable course.

In exploring technology and data management, students from a diverse array of academic, technological, cultural, and economic backgrounds bring unique perspectives that enrich class engagement. The varied prisms through which students view technology and data usage contribute to a dynamic learning environment. This diversity becomes particularly valuable when students are provided with a safe space for candid discussions about data usage and ethics, fostering a deeper exploration of questions related to diversity and equity.

Students are afforded equal opportunities to access all learning resources through CMS, coupled with individual support from the instructor via CMS videoconferencing software. Accessible/closed-captioned videos and diverse media formats are strategically employed to ensure success in the realm of Diversity, Equity, and Inclusion (DEI). Instruction is delivered through recorded/captioned video and printed lectures.

Discussion boards, available in two formats – student-to-student and student-to-instructor – facilitate asynchronous discussions in print or video format using accessible CMS video conferencing software. PowerPoint or accessible/closed-captioned video presentations are uploaded onto Canvas for student use. Exams and tests, administered fully online, may include multiple choice, short answer essays, or other formats aligned with learning objectives. Evaluation is conducted through CMS, emphasizing the demonstration of identification and/or understanding of major topics in the course content.

Instructor feedback is provided within two weeks through CMS. The textbooks and supplemental materials are intentionally designed to address a segment of the population often marginalized, introducing students to a life course perspective on the aging process. Engaging interactions between instructor-to-student and student-to-student encourage students to contemplate age-related attitudes in society, broadening their understanding of their futures.

Interactions

Explain how the course will incorporate student-to-student interaction.

The course promotes student-to-student interaction by allowing and encouraging group discussions as methods of evaluation. Students will share research findings, literature reviews, personal anecdotal experiences with technology and data, and findings from interviews and outside research on healthcare, data utilization, medical ethics and decision making. Discussions may be used for students to interact with their peers to share their interpretations of the content and ask questions. Group activities may be used to develop a deeper understanding of topics and provide opportunities for collaboration while centering student voices. For example, students may be asked to share concerns about identity theft or medicare fraud as it relates to data mining or use of malware or trojan horse software, or challenges to accurate data collection from minority patients who do not wish to disclose health or immigration status, and the impact of that information gap on decision making.

Students will engage in various collaborative activities such as break-out rooms, small groups, and/or discussion posts so that they will have frequent opportunities to engage in peer-to-peer discussions designed to foster community and encourage students to experience the impact of building community in the classroom. Students might also work in small groups online or in-class to create presentations on theoretical perspectives or newest innovations in data driven healthcare decision-making. Using the course CMS discussion forums, breakout rooms in video-conferencing software, and/or in-class, students will collaborate on critical approaches, and/or the application of concepts as formative activities to build understanding and fluency and to form community.

Explain how the course will incorporate instructor-to-student interaction.

The role of the instructor in this course is multifaceted. They act as the guide to introduce students to novel concepts, such as medical ethics in data management, and engage in discussions about systems, software, and data collection.

Instructors are responsible for presenting and elaborating on course materials, elucidating intricate concepts, and highlighting the relationships between these concepts. They also demonstrate problem-solving techniques, providing students with the skills needed to navigate complex issues. Moreover, instructors evaluate assignments according to the provided rubric and offer timely feedback on all assessments.

For instance, instructors facilitate discussions on contentious topics, moderating debates and contributing valuable insights. They model critical thinking processes, underscore the importance of understanding intersectionality, and encourage the consideration of sociohistorical and sociopolitical factors in analysis and practical application. This approach inspires students to establish connections between course content and real-world observations, facilitating their understanding of the learning process.

Instructors are equipped to offer feedback to students through various channels, such as video conferencing software, the functionality of the course management system (CMS) for grading, or individual meetings. This diverse approach ensures that students receive guidance and support tailored to their unique learning needs.

Explain how the course will incorporate student-to-content interaction.

In this course, where many students may be new to the complexities of data and healthcare systems, collaboration takes center stage. Students individually and collectively explore the intricate fusion of technology, healthcare, human services, and the ethical considerations underpinning data's role in policy and decision-making.

Active engagement with course content and supplementary materials is strongly encouraged, fostering a deeper connection with the subject matter. The course leverages various resources, including the course management system (CMS), video-conferencing breakout rooms, and in-class sessions, to cultivate a conducive environment for robust class discussions.

These discussions serve as platforms for students to apply critical legal decisions and elucidate their implications, enriching their understanding of the subject matter. Additionally, the course promotes student-to-content interactions through diverse instructional methods, encompassing lectures, individual and group activities, visual and virtual demonstrations, and practical experiments.

Students are presented with numerous opportunities to actively interact with the course material, whether through traditional readings or interactive visual simulations. For instance, students might be tasked with selecting and discussing specific challenges related to accessing or delivering quality care for older adults.

The instructor's role is pivotal in guiding, demonstrating, and modeling effective interactions with the course content. This approach nurtures the development of critical thinking skills, reflective capabilities, and the ability to identify sociological concepts in their daily lives. The aim is not only for students to comprehend the material but also to apply it effectively in real-world scenarios.

Explain how the course will incorporate student-to-self interaction (metacognitive).

A high degree of personal insight is essential to determine effective technology use in healthcare decisions, particularly concerning the impact on older adults in one's community. This course cultivates critical thinking by encouraging students to reflect on the material's relevance in their lives, communities, and families, emphasizing how services and resources for older adults directly affect their own well-being as they age.

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