

**The University of Western Ontario
Faculty of Information and Media Studies**

**HIS 9241/ FIMS 9841 – Interdisciplinary Issues in Health Information Science
Course Outline, Fall 2023**

Instructor Information

Name: Prof. Luke Stark (pronouns: he/him)

Office: FNB 4035

Student Meetings: By appointment in person or via Zoom (<https://calendly.com/lukestark>)

Office Phone: 519-661-2111 ext. 88511

E-Mail: cstark23@uwo.ca *please note I will aim to answer your email within 24 hours, excluding weekends*

Course Information

Course Meetings: Tuesdays 9:00am to 11:50am

Location: FNB 4130, or via Zoom (*online sessions will noted on the syllabus and links distributed via email*)

Technology requirements: Students will require regular or at least consistent access to a computer and internet connection capable of handling streaming video and audio. If this is an issue, please contact me as soon as possible.

Enrollment in this course is restricted to graduate students in the Faculties of Information and Media Studies and Health Sciences, as well as any student that has obtained special permission to enroll in this course from the course instructor as well as the Graduate Chair (or equivalent) from the student's home program.

Course Description

This course will provide an overview of emerging issues in health information science. Taking a critical approach, we will consider how "information" is understood in the context of health and healthcare, and how digital technologies are reshaping the definition, creation, provision and use of information in the health care system. We will explore different actors in healthcare, their information-seeking behaviour, and how these actors influence and are influenced by broader ethical, social, political, and legal factors.

Course Objectives

In these challenging times, the first objective of the course is to support each other throughout the semester. By the conclusion of the course, you should also:

- Have a working description of the scope and role of health information science as a discipline in both research and practice;
- Be able to critically evaluate and engage with not only health information policies, practices, and sources, but also some of the fundamental assumptions and ideas that underpin these;
- Understand trends and issues in evidence-based health care, health informatics, health privacy legislation, health and social media, knowledge translation, and health literacy;
- Have a basic understanding of the Canadian health care system and how information shapes its trajectory;
- Be able to describe the information seeking behaviours of the major stakeholders in the health system, including health professionals, policy makers, and patients/the public, and identify the types of resources and services that would best meet their information needs;
- Gain basic experience with searching online health-related databases (e.g., MEDLINE) and accessing health-related resources from a variety of sources;

- Become adept in applying your knowledge to the rapidly changing public and scholarly conversation around health care and digital technologies;
- Develop a mix of critical research skills, and learn to use these skills synthetically, creatively, and thoughtfully to your own analyses and arguments;
- Apply both your knowledge and research skills to a particular set of research problems both individually and as part of a group.

Weekly Topics and Readings

1. *Introduction*

September 12, 2022

No class

September 19, 2022 (**Reflective Writing Assignment due Friday, September 22**)

2. *Information Systems*

September 26, 2022

Marx, Leo. 2010. "Technology: the Emergence of a Hazardous Concept." *Technology and Culture* 51 (3): 561–77.

Nunberg, Geoffrey, "Farewell to the Information Age", in *The Future of the Book*, Geoffrey Nunberg, ed., Brepols (Belgium) and University of California Press, 1996

Star, Susan Leigh, and Karen Ruhleder. "Steps Toward an Ecology of Infrastructure: Design and Access for Large Information Spaces." *Information Systems Research*, vol. 7, no. 1, Mar. 1996, pp. 111–34.

Group presentation:

Star, S. Leigh. "This Is Not a Boundary Object: Reflections on the Origin of a Concept." *Science, Technology, & Human Values*, vol. 35, no. 5, Aug. 2010, pp. 601–17, <https://doi.org/10.1177/0162243910377624>.

3. *Evidence*

October 3, 2022

Lambert, H. (2006). Accounting for EBM: notions of evidence in medicine. *Social Science & Medicine*, 62(11), 2633–2645. <https://doi.org/10.1016/j.socscimed.2005.11.023>.

Kelly, M. P., Heath, I., Howick, J., & Greenhalgh, T. (2015). The importance of values in evidence-based medicine. *BMC Medical Ethics*, 16(1), 1–8. <https://doi.org/10.1186/s12910-015-0063-3>.

Group presentation:

De Vries, R., & Lemmens, T. (2006). The social and cultural shaping of medical evidence: case studies from pharmaceutical research and obstetric science. *Social Science & Medicine*, 62(11), 2694–2706

4. *Workers, Patients & Carers (*Critical commentary #1 due*)*

October 10, 2023

Elish, M.C. and Elizabeth Anne Watkins. *Repairing Innovation: A Study of Integrating AI in Clinical Care*. Data & Society Research Institute, 2020.

Greenhalgh, T., Snow, R., Ryan, S., Rees, S., & Salisbury, H. (2015). Six ‘biases’ against patients and carers in evidence-based medicine. *BMC Medicine*, 13(1), 200

Group presentation:

Lenz, Sarah. “‘More like a Support Tool’: Ambivalences around Digital Health from Medical Developers’ Perspective.” *Big Data & Society*, vol. 8, no. 1, 2021

5. *Data & Machine Learning*

October 17, 2022

Chin-Yee Benjamin, and Ross Upshur. “Three Problems with Big Data and Artificial Intelligence in Medicine.” *Perspectives in Biology and Medicine* 62 (2019) : 237-256

Obermeyer, Ziad et al. “Dissecting Racial Bias in an Algorithm Used to Manage the Health of Populations.” *Science* 366.6464 (2019): 447–453

Benjamin R. Assessing risk, automating racism. *Science*, 2019 (a response to Obermeyer et al): <https://science.sciencemag.org/content/366/6464/421/tab-article-info>

Group presentations:

Stinson, Catherine. *Healthy Data: Policy Solutions for Big Data and AI Innovation in Health*. Mowat Centre, University of Toronto, 2018.

6. *Privacy and Autonomy*

October 24, 2022

Wadmann S, Hoeyer K. Dangers of the digital fit: Rethinking seamlessness and social sustainability in data-intensive healthcare. *Big Data & Society* 2018 (Jan-Jun): 1-13.

Semel BM. Listening Like a Computer: Attentional Tensions and Mechanized Care in Psychiatric Digital Phenotyping. *Science, Technology, & Human Values*. 2022;47(2):266-290.

Group presentations:

Leonardi, P. M. (2009). Why do people reject new technologies and stymie organizational changes of which they are in favor? Exploring misalignments between social interactions and materiality. *Human Communication Research*, 35(3), 407–441.

No class – Fall Research Week

October 31, 2023

7. *Epidemiology and Public Health (*Commentary #2 due*)*

November 7, 2023

Short PHAC chapter “What is Public Health”:

<https://www.canada.ca/en/public-health/corporate/publications/chief-public-health-officer-reports-state-public-health-canada/report-on-state-public-health-canada-2008/chapter-2a.html>

Greta R Bauer, Daniel Lizotte, “Artificial Intelligence, Intersectionality, and the Future of Public Health” <https://pubmed.ncbi.nlm.nih.gov/33326280/>

Merid, B., Robles, M.C., and Nallamotheu, B.K. (2021). “Digital Redlining and Cardiovascular Innovation.” *Circulation* 144(12), 913-915.

Molldrem, Stephen, and Smith Anthony K J. 2021. “Reassessing the Ethics of Molecular HIV Surveillance in the Era of Cluster Detection and Response: Toward HIV Data Justice.” *The American Journal of Bioethics* 20 (10). Taylor & Francis: 10–23. doi:10.1080/15265161.2020.1806373.

Group Presentation:

Mooney SJ, Pejaver V. Big data in public health: terminology, machine learning, and privacy. *Annual Review of Public Health* 2018; 39:95-112.

8. *Media, Misinformation and Disinformation*

November 14, 2023

Yavchitz, A., Boutron, I., Bafeta, A., Marroun, I., Charles, P., Mantz, J., & Ravaud, P. (2012). Misrepresentation of randomized controlled trials in press releases and news coverage: a cohort study. *PLoS Med.* 9(9), e1001308.

Kreiss, Daniel, and Shannon C McGregor. “A Review and Provocation: On Polarization and Platforms.” *New Media & Society*, 2023.

Murdoch, Blake, and Timothy Caulfield. “COVID-19 Lockdown Revisionism.” *Canadian Medical Association Journal*, vol. 195, no. 15, 2023, pp. E552–54, <https://doi.org/10.1503/cmaj.221543>.

Group Presentation:

Jack, Caroline. *Lexicon of Lies: Terms for Problematic Information*. Aug. 2017, pp. 1–22.

9. *Knowledge Mobilization*

November 21, 2023

Barer, M. (2005). Evidence, interests and knowledge translation: reflections of an unrepentant zombie chaser. *Healthcare Quarterly* (Toronto, Ont.), 8(1), 46–53. DOI: 10.12927/hcq..16939

Kothari, A., & Wathen, C. N. (2017). Integrated knowledge translation: digging deeper, moving forward. *Journal of Epidemiology and Community Health*, 71(6), 619–623.

Meisel, Z. F., & Karlawish, J. (2011). Narrative vs evidence-based medicine—and, not or. *JAMA*, 306(18), 2022–2023

Group Presentation:

Greenhalgh, T., & Wieringa, S. (2011). Is it time to drop the ‘knowledge translation’ metaphor? A critical literature review. *Journal of the Royal Society of Medicine*, 104(12), 501–509.

10. Futures (*Commentary #3 due*)

November 28, 2023

Sharon, Tamar. “When Digital Health Meets Digital Capitalism, How Many Common Goods Are at Stake?” *Big Data & Society*, vol. 5, no. 2, 2018

Eveleth, Rose. *Welcome to Vanguard Estates: A story in which you choose your own path*. Data & Society Research Institute, 2018

Group Presentation:

Holzmeier C. (2021). [Beyond ‘AI for Social Good’ \(AI4SG\): social transformations—not tech-fixes—for health equity](#). *Interdisciplinary Science Reviews*: 46

11. Showcase Presentations

December 5, 2023

12. Showcase Presentations

December 12, 2023

Course Materials

All materials will be available via the course site on OWL.

Health/Wellness Services

Students who are in emotional/mental distress should refer to Mental Health@Western:

<http://www.uwo.ca/uwocom/mentalhealth/> for a complete list of options about how to obtain help.

Accessible Education Western (AEW)

Western is committed to achieving barrier-free accessibility for all its members, including graduate students. As part of this commitment, Western provides a variety of services devoted to promoting, advocating, and accommodating persons with disabilities in their respective graduate program.

Graduate students with disabilities (for example, chronic illnesses, mental health conditions, mobility impairments) are strongly encouraged to register with Accessible Education Western (AEW), a confidential service designed to support graduate and undergraduate students through their academic program. With the appropriate documentation, the student will work with both AEW and their graduate programs (normally their Graduate Chair and/or Course instructor) to ensure that appropriate academic accommodations to program requirements are arranged. These accommodations include individual counselling, alternative formatted literature, accessible campus transportation, learning strategy instruction, writing exams and assistive technology instruction.

Methods of Evaluation

There are no late penalties for this course; however, I am constrained by final mark submission deadlines set by the university. The final date to drop this course without academic penalty is **November 1, 2023**.

Much of your evaluation in this class consists of group work. I will assign you to a group of 3-4 students at the beginning of the semester. This will be your group both for your in-class group presentation and for your group technical impact assessment project.

Collegiality & Engagement: 10%

You will be evaluated on your qualitative contributions to course discussions. Please remember that some people may feel less comfortable speaking up in class, while some feel more comfortable. That said, students should participate as much as possible in all sessions, and designated readings for each week should be completed before class. Your grade for class participation will be assessed of your participation during the seminar presentations of your peers, small group discussions, participation in our ongoing discussion about HIS as a discipline, evidence of your general preparation for class, including familiarity with required readings, contributions to discussions, and demonstration of respect for the ideas and feelings of others.

As part of this portion of your grade, you will complete a weekly “exit ticket” through which you can ask further questions about the material and provide other feedback to me. This exit ticket will be accessible via OWL. It should be completed for every class you attend and is a critical component of your engagement grade. The exit ticket will also present a space to post links to notable news articles you’ve seen over the past week dealing with topics related to the class. At the beginning of each class session, we will discuss some of these articles together as a warm-up exercise.

Reflective Writing Assignment: 10%

Write a 600–800-word reflective essay explaining how your personal and academic trajectory has brought you to the HIS program at Western. In doing so make sure to, a) provide your own definitions of “health” and “information science,” and b) explain what interest these concepts hold for you, if any. Do not use any sources for this assignment and aim to make the writing polished and grammatically correct as you are able.

Group Seminar Presentation & Facilitation: 15%

Once a term, your group will be responsible for a 20-minute presentation of one of the week’s readings marked as “group presentations.” In that presentation, your group should present the piece’s main arguments, explain its broader scholarly context, and connect its contribution to contemporary debates both academic and public. Your group will also facilitate class discussion by formulating three to four discussion questions for the class. A sign-up list will be available at the beginning of the semester.

Critical Commentaries: 30% (10% each, due weeks 4, 7 and 10)

Students will submit three brief individual reports on a topic related to the course, in which a course reading is linked to current events.

Each report will be based on a reading from the reading list (or a related reading, with permission of the instructor), discussed in the context of a very recent (within the past two months) journal, newspaper, magazine or blog article relating to the course reading and selected by the student. Topics should be related to those covered in the preceding weeks of class. This exercise aims to help you develop the skills needed to communicate complex ideas clearly and in plain language for diverse audiences.

Commentaries should be between 600-800 words, including an overview and synthesis of the two sources, plus the requirements outlined below. Please make sure to include a reference list (not included in the word limit). This is an exercise in writing concisely and with insight about theory, research and/or practice. Assignments that merely summarize the readings are not appropriate – you need to provide some critical synthesis. Avoid burying yourself in details: reflect on what you have read, note down the important points you want to make, and proof-read and revise your writing to keep the piece concise. Include the following elements when writing your commentaries:

- What is the overall theme and what are the key ideas in the articles? There will often be many possible themes and key ideas. For you, from your perspective, what stands out as significant?

- Identify, where possible, the type of sources used by the author(s). For example, for a journal article, the author might have searched previous literature and/or conducted original research using study subjects; a journalist might have conducted interviews or commented on a major report that has been released.
- Why did you select these two readings – what brings them together, conceptually? Which arguments and what analysis on the key ideas did you find fit in most with your own ideas? Why? Did you disagree with any of the ideas presented? Why?

In the class in which each commentary is due, each student will be asked to very briefly describe their topic and answer the following two questions:

- What motivated you to choose this topic? What activated you about it?
- How does the topic relate to the course content so far?

You will have three minutes (with a hard stop!) to present this material, so think carefully about what you want to say.

Commentaries will be graded on the appropriateness of the articles selected, the clarity and concision of your analysis, and evidence that you've thought about the issue deeply and selected key messages that have relevance to each other. You will lose marks if sources are not identified or cited properly, if no critical synthesis or relevance is provided, or if reports exceed the word limit.

Technology Impact Assessment (TIA) Group Project & Showcase Presentations: 35%

You will work in your group to develop a digital technology impact assessment of a local health care organization. Your grade will be based on the written impact assessment (20%) and showcase presentation of findings/recommendations (15%). We will discuss this assignment in detail in the second meeting of the class.

Course Conduct

Your goal in this course should be full attendance, attention, participation, listening and reading all of the required texts. That said, such goals are always aspirational. Do your best, but don't beat yourself up when (as we all do) it feels to you as if you come up short.

Disagreements are expected, but while arguments are not contests, they often have high stakes (sometimes invisible to you, but highly compelling to others – see the EDI principles below). Personal attacks, bullying, or intimidation is not acceptable under any circumstance. Please keep nitpicking to a minimum; all questions, whether basic or advanced, are valuable. Remember, you are free to change your mind at any time—as are others.

Do not engage in “seek and destroy” criticism of others’ ideas, or of ideas in the readings. Critique is a powerful tool and does damage. If you have something critical to say about a reading, please be ready to explain how the piece could be improved; if you disagree with the premise of a piece, read to understand what motivates the argument — without knowing your adversary, how can you defeat it? And please remember that some people may feel less comfortable speaking up in class, while some feel more comfortable.

The testimony of personal experience is a necessary and often valuable part of our intellectual grounding and trajectory. However, like critique, testimony is also a powerful tool that can cut both ways. Please be thoughtful about mobilizing personal experience in class. Ask yourself if the testimony is relevant, and safe for you to share; ask yourself too if you are prepared to seriously consider others’ interpretations of your experience if they differ from your own? Anecdotes are different kinds of evidence that systematically collected scholarly data, and useful (or harmful) in different ways.

Finally, in this course, I'd like you to strive to embody Western's equity, diversity and inclusion (EDI) principles. Western University's institutional commitment to equity, diversity and inclusion (EDI) supports the University's mandate as a research-intensive institution of higher learning, an employer of choice and a community leader. The University is enriched by the diversity of our campus community and strengthened by our shared commitment to equity and inclusion. Black Lives Matter, as do the lives and experiences of Indigenous peoples, other visible minorities, and all underrepresented and equity-seeking groups*.

Your conduct in this course should be guided by the principles below:

Equity – We value equity of access and opportunity for members of underrepresented and equity-seeking groups*. We take action to identify and address barriers to the full participation of members of these groups at the University.

Diversity – We value and respect the diversity of our campus community. We recognize the important contributions that diverse perspectives and lived experiences bring to Western's learning, teaching, working and research environments.

Inclusion – We value inclusion and active engagement with and across diverse communities in all aspects of university life. We foster a welcoming campus community where everyone feels respected, valued and included.

**Members of underrepresented or equity-seeking groups includes, but may not be limited to, women, Indigenous peoples (First Nations, Inuit and Métis), persons with disabilities, members of racialized groups and members of LGBTQ2+ communities. In recognition that all individuals have multiple aspects of identity, an intersectional lens will also be used when assessing barriers and/or developing policies/programs at the University.*

For more information on Western's policies around academic integrity, including plagiarism, please visit <https://teaching.uwo.ca/teaching/assessing/academic-integrity.html>

Statement on Generative AI

In this course, you will be evaluated in large part on the quality of your written arguments. As such, the use of AI content generators (such as ChatGPT) to complete assignments is not allowed in this course. Remember that plagiarism includes, but is not limited to, the unauthorized use of generative artificial intelligence to create content that is submitted as one's own. However, I am aware it is extremely easy to use such AI content generators without detection. I am therefore trusting you to abide by this rule by the honor system—in return for my full attention and engagement with your work, I ask that you submit yourself to the often-frustrating process of writing from scratch.

Covid Contingency Statement

In the event of a COVID-19 resurgence, or other health emergency, during the course that necessitates the course delivery moving away from face-to-face interaction, all remaining course content will be delivered entirely online, either synchronously (i.e., at the times indicated in the timetable) or asynchronously (e.g., posted on OWL for students to view at their convenience). The grading scheme will not change. Any remaining assessments will also be conducted online as determined by the course instructor.

If university policy and public health directives necessitate additional measures to manage the spread of disease, students may be required to resume masking in instructional spaces. Students who are unable to wear a mask for medical reasons should seek accommodation through Accessible Education

Land Acknowledgment

We acknowledge that Western University is located on the traditional lands of the Anishinaabek, Haudenosaunee, Lūnaapéewak and Chonnonton Nations, on lands connected with the London Township and Sombra Treaties of 1796 and the Dish with One Spoon Covenant Wampum.

In doing so, we respect the longstanding relationships that Indigenous Nations have to this land, as they are the original caretakers. We acknowledge historical and ongoing injustices that Indigenous Peoples (First Nations, Métis and Inuit) endure in Canada, and we accept responsibility as a public institution to contribute toward revealing and correcting miseducation as well as renewing respectful relationships with Indigenous communities through our teaching, research and community service.

For more information about the purpose and significance of land acknowledgments, please visit <https://indigenous.uwo.ca/initiatives/land-acknowledgement.html>.

Syllabus Credits

This syllabus is grounded in part on materials developed by Drs. Nadine Wathen, Anita Kothari, and Eugenia Canas of Western University, Gabriella Coleman and Jonathan Sterne of McGill University, Anna Lauren Hoffmann of the University of Washington, and Jay Shaw and Ross Upshur of the University of Toronto.