Course: HS4092F - Digital Health for Equity
Professor: Dr. Tarun Katapally, Canada Research Chair in Digital Health for Equity
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Office: Health Sciences Building
Teaching Assistants: TBD
Class Location, Day, and Time: **Online**
Class Format: Online - A mix of synchronous online lectures and asynchronous pre-recorded lectures via Brightspace. It is important to secure a strong internet connection. Smartphone/Smartwatch/Tablet ownership is **highly recommended** to potentially participate in some class activities.

COURSE DESCRIPTION

Health inequities, which have been persistent in our health systems, have further widened since the emergence of COVID-19. Although there has been immense uptake of virtual care services during the pandemic, our health systems are currently not succeeding in addressing inequities. This is unfortunate because digital health systems can promote health equity by empowering citizens. This course will provide an introduction to digital health, and more importantly, how digital health can enable equity.

COURSE OBJECTIVES

- Demonstrate an understanding of theoretical and methodological principles of population health and health equity
- Establish the importance of a population health perspective and social determinants of health in creating digital health interventions
- Identify concepts, principles, values, and emerging trends underlying digital health approaches
- Understand the importance of digital health platforms in addressing health outcomes among disadvantaged populations
- Understand the role of policy-driven digital health interventions in addressing population health crises

RECOMMENDED READINGS

This course has no required textbook. Open access article links and other class materials will be posted on Brightspace one week before the start of each module.

CLASS EXPECTATIONS

During online lectures, you are expected to use computers for **scholastic purposes only**. It is **mandatory** to keep your camera **ON** during live lectures to facilitate learning and discussions. Unless **explicitly** noted otherwise, you may **NOT** make audio or video recordings of lectures – nor may you edit, re-use, distribute, or re-broadcast any of the material posted to the course website.

CLASS SCHEDULE

A description of the **TENTATIVE** class schedule with each module's content is enumerated below. The course **timetable, content, and assignment schedule can change**. Students should expect modifications to the content. Students should also expect guest lecturers and instructors, who will contribute to the course content throughout the course.

MODULE 1 – Week of May 6
    a) **Health Equity**
    b) **Population Health Promotion**

Topics:
- Introduction to health equity
- Key definitions and terminology
- Opportunities and challenges
- Introduction to population health
- Socio-ecological determinants of health
- Application of population health approaches

MODULE 2 - Week of May 13
    a) **Digital Population Health Interventions**
    b) **Disadvantaged Populations**

Topics:
- Introduction to population health interventions
- Emergence of digital health
- Equity in digital health
- Prioritized partnerships with disadvantaged populations
- Digital health strategies to promote equity
- Challenges of digital health interventions with disadvantaged populations

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MODULE 3 - Week of May 20
    a) **Digital Health and Virtual Care**
    b) **Digital Citizen Science**

Topics:
- Introduction Digital health systems
- Introduction to virtual care
- eHealth, mHealth, uHealth
- Introduction to digital citizen science
- Role of citizen science in the digital age
- Digital citizen science frameworks for equity

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MODULE 4 - Week of May 27
     a) Digital Health Methods
     b) Digital Health Platforms
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Topics:

- Study designs for digital health
- Mixed methods for digital health
- Real-time engagement with populations
- Introduction to digital health platforms
- Development of digital health platforms
- Scaling-up digital health platforms for equity

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MODULE 5- Week of June 3
     a) Artificial Intelligence in Digital Health
     b) Evaluation & Knowledge Translation of Digital Health
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Topics:

- Introduction to artificial intelligence and machine learning
- Role of artificial intelligence in health equity
- Future of artificial intelligence in digital health
- Evaluation of digital health solutions
- Evaluation strategies in the digital era
- Evaluation and knowledge translation for digital health equity

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MODULE 6 – Week of June 10
     a) Risks and Opportunities of Digital Health
     b) Future of Digital Health for Equity
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Topics:

- Introduction to risks
- Identification of opportunities
- Balancing risks with opportunities
- Inverting innovation
- Data sovereignty
- Social innovation

Class Attendance

Class attendance is mandatory. During lectures, students will be encouraged to participate in group discussions. **Personal views may differ, and it is important to engage in healthy debate.**

*Class participation is encouraged, which means not only attendance, but active engagement in the class, including (for example) contribution to small and large group discussions, and a demonstrated effort to prepare for class by completing assigned readings before class, and following the instructor's guidelines for use of electronic devices during class time. **Students who miss classes, or parts of classes, are***

responsible for the material they have missed. The instructor or the teaching assistant is not obliged to review the contents of missed lectures.

GRADING SCHEME AND ASSIGNMENTS

All assignments will be submitted online via Brightspace.
This project should be in 12-point Times New Roman font.

<u>**Class Assignment:**</u> Develop a digital health intervention to address the current mental health crisis: https://www.camh.ca/en/driving-change/the-crisis-is-real

Please ensure that the intervention is equitable. This digital health intervention could either be a policy, program or practice that could be implemented at any level and setting (i.e., community, hospital, school etc.) Provide a clear rationale for choosing the specific mental health problem, state the aims of the intervention, provide a clear description of the intervention, identify the social determinants of health that would be targeted, enumerate an implementation strategy, explain the data collection processes and methods of data analysis, and finally provide an evaluation and knowledge translation plan.

Assessment	Weight
Digital Health Intervention: Part 1 (1000 words)	50%
Digital Health Intervention: Part 2 (1000 words)	50%

*All written assignments will be assessed for overall writing style i.e., grammar, clarity, presentation, formatting, and referencing. All written assignments should follow **Vancouver-style referencing**.

<u>**Policy on Late Assignments**</u>
It is essential that assignments are submitted by the time and date specified. Late assignments will be penalized by a deduction of 5% per day. In extenuating circumstances, please contact the course instructor or the teaching assistant.

<u>**Extenuating Circumstances**</u>

The University recognizes that a student's ability to meet their academic responsibilities may, on occasion, be impaired by extenuating circumstances, including short-term illness or injury. Reasonable academic consideration is a cooperative process between the University, the student, and academic staff. All participants in the process must act in good faith, and fulfil their respective obligations, if it is to succeed.

Students who experience an extenuating circumstance (illness, injury, or other extenuating circumstance) sufficiently significant as to temporarily render them unable to meet academic requirements, may submit a request for academic consideration through the following routes:

(i)   For medical absences, submitting a Student Medical Certificate (SMC) signed by a licensed medical or mental health practitioner, in order to be eligible for Academic Consideration; or

(ii) *For non-medical absences, submitting appropriate documentation (e.g., obituary, police report, accident report, court order, etc.) to academic advising office in their Faculty of registration, in order to be eligible for academic consideration.*

Students seeking academic consideration:

- *Are advised to consider carefully the implications of postponing or delaying handing in work.*

- *Are encouraged to make appropriate decisions, based on their specific circumstances, recognizing that minor ailments (e.g., upset stomach) or upsets (e.g., argument with a friend) are not normally an appropriate basis for an SMC.*

- ***Are advised that all necessary documentation, forms, etc. are to be submitted to the academic advising office within two business days after the date specified for resuming responsibilities***

Academic Integrity

All students are responsible for upholding academic integrity in all aspects of class participation, examinations, and assignments. **Plagiarism will not be tolerated.**

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (http://www.turnitin.com)

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site: Academic Calendar - Western University (uwo.ca)

The university-wide descriptor of the meaning of letter grades, as approved by Senate:

A+	*90-100*	*One could scarcely expect better from a student at this level*
A	*80-89*	*Superior work that is clearly above average*
B	*70-79*	*Good work, meeting all requirements and eminently satisfactory*
C	*60-69*	*Competent work, meeting requirements*
D	*50-59*	*Fair work, minimally acceptable.*
F	*below 50*	*Fail*

IMPORTANT COURSE INFORMATION

Prerequisite Criteria

Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course and it will be deleted from your record. This decision

may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

Student Support Systems

There are various support services around campus, and these include, but are not limited to:

1. *Student Development Centre -- http://academicsupport.uwo.ca/*

2. *Student Health -- https://www.uwo.ca/health/*

3. *Registrar's Office -- http://www.registrar.uwo.ca/*

4. *Ombudsperson Office -- http://www.uwo.ca/ombuds/*

Health and Wellness

The undergraduate experience is rewarding and challenging socially, emotionally, and intellectually. Finding ways to balance scholarly life with our personal lives can be tough, but it's important to learn how to manage stress. Western provides several health and wellness-related services to students, which may be found at http://www.health.uwo.ca/. You can also check out the Campus Recreation Centre or the McIntosh Gallery (http://www.mcintoshgallery.ca/), for alternative spaces to reconnect with your bodies and restore your spirit. You may also want to access local resources that are closer to where you are living during the school year. Recalibrating ourselves emotionally begins with slowing down, reminding ourselves that we are ok, and taking a few deep, slow breaths. This remarkably effective strategy brings the body from stress mode into a more relaxed state.

If you are in emotional or mental distress should refer to Mental Health@Western Mental Health Support - Health & Wellness - Western University (uwo.ca)for a complete list of options about how to obtain help or Thames Valley Family Services (https://www.familyservicethamesvalley.com/), a trusted provider within the community. To help you learn more about mental health, Western has developed an interactive mental health learning module, found here: Health & Wellness - Western University (uwo.ca). It's also advisable to have a wellness safety plan if you don't want to reach out to formal services. Having the numbers of a few trusted individuals is another strategy.

Common Concerns Guidelines

The table below summarizes a list of common student concerns and how they are to be resolved. If you have a concern that is not listed here, then please email your instructor.

Concern	How to address concern
Course administrative matters	Read through the course outline or email instructor if questions cannot be answered from information in the course outline

Course content questions	Refer to the Brightspace Resources (notes, calendar, etc.). Email the instructor.
Grade disputes and requests for appeals	A student requesting an appeal to a specific course with respect to a grade for an assignment or examination much first contact their instructor to discuss such manners. Visit the following website for guide on submitting an appeal: https://uwo.ca/fhs//policies/appeals.html