

**Course: HS4092F - Digital Health for Equity****Professor:** Dr. Tarun Katapally, Canada Research Chair in Digital Health for Equity**Email:** tarun.katapally@uwo.ca**Phone:** 5196112111. Ex: 80311**Office:** Health Sciences Building**Teaching Assistants:** Sarah Al-akshar, PhD Candidate, HIS Program; Sheriff Tolulope Ibrahim, PhD Candidate, HIS Program**Class Location, Day, and Time:** FNB 1270 and OWL Tuesday, 9:30am -12:30pm**Class Format:** Hybrid - A mix of in-person and online lectures via OWL. It is important to secure strong internet connection for online classes, which will be announced one week before the scheduled class. 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 health 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 textbooks. Open access article links and other class materials will be posted on OWL one week before the start of each module.**

**CLASS EXPECTATIONS**

**During lectures and tutorials, you are expected to use computers for scholastic purposes only. During in-person lectures, from time to time, you may be asked to turn off all computers, to facilitate learning or discussion of the material presented in a particular class. 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. All electronic devices need to be on silent mode during class time.**

**CLASS SCHEDULE**

**A description of TENTATIVE class schedule with each module's content is enumerated below. The course timetable 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 – Health Equity**

September 13

*Topics:*

- Introduction to health equity
- Key definitions and terminology
- Opportunities and challenges

**MODULE 2 – Population Health and Health Promotion**

September 20

*Topics:*

- Introduction to population health
- Socio-ecological determinants of health
- Application of population health approaches

**MODULE 3 – Population Health Interventions**

September 27

*Topics:*

- Introduction to Population health interventions
- Intersection of policy and program interventions
- Population health interventions to minimize health inequities

**MODULE 4 – Disadvantaged Populations**

October 4

*Topics:*

- Identification of disadvantaged populations
- Health disparities in disadvantaged populations
- Strategies to promote health in disadvantaged populations

**MODULE 5 – Digital Health and Virtual Care**

October 11

*Topics:*

- Introduction to eHealth, mHealth, uHealth
- Introduction to virtual care
- Digital health for equity

**MODULE 6 – Digital Citizen Science**

October 18

*Topics:*

- Introduction to digital citizen science
- Role of citizen science in the digital age
- Digital citizen science frameworks for equity

**MODULE 8 – Digital Health Methods**

October 25

**Topics:**

- Study designs for digital health
- Mixed methods for digital health
- Real-time engagement with populations

**Fall Break: October 31 – November 6****MODULE 9 – Digital Health Platforms**

November 8

**Topics:**

- Introduction to digital health platforms
- Development of digital health platforms
- Scaling-up digital health platforms for equity

**MODULE 10 – Artificial Intelligence in Digital Health**

November 15

**Topics:**

- Introduction to artificial intelligence and machine learning
- Role of artificial intelligence in health equity
- Future of artificial intelligence in digital health

**MODULE 11 – Evaluation & Knowledge Translation of Digital Health Platforms**

November 22

**Topics:**

- Introduction to health program evaluation
- Evaluation strategies in the digital era
- Knowledge translation for digital health equity

**MODULE 12 – Risks and Opportunities of Digital Health**

November 29

**Topics:**

- Introduction to risks
- Identification of opportunities
- Balancing risks with opportunities

**MODULE 13 – Future of Digital Health for Equity**

December 6

**Topics:**

- Inverting innovation

- Data sovereignty
- Social innovation

## GRADING SCHEME AND ASSIGNMENTS

Assessment	Weight	Deadline
Digital Health Intervention: Part 1	35%	October 18
Digital Health Intervention: Part 2	35%	November 15
Digital Health Intervention: Part 3	30%	December 6

\*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**.

### Class Attendance

Class attendance is mandatory. **Students should inform the instructor or the teaching assistants ahead of missing classes and provide an appropriate reason.** 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 assistants are not obliged to review the contents of missed lectures.***

### Course Testing Structure: Digital Health Intervention (See grading rubric below)

**All assignments should be submitted online via OWL.**

**Assignments should be written in 12-point Times New Roman font.**

**Part 1 is limited to 1000 words, Part 2 is limited to 750 words, and Part 3 is limited to 500 words**

**Class Assignment:** 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. A more detailed description of expectations is provided in the grading rubric.

### Policy on Late Assignments

It is essential that assignments are submitted by the time and date specified. Late assignments will be penalized by a mark deduction of 5% per day. In extenuating circumstances, please contact the course instructor or the teaching assistants.

### Extenuating Circumstances

*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 \(uwo.ca\)](http://www.uwo.ca)*

**Grading Rubric (Digital Health Intervention):**

	Introduction	Provide a situational assessment <ul style="list-style-type: none"> <li>• What is the specific mental health problem?</li> <li>• What is the rationale for choosing the problem? (i.e., provide evidence/existing literature)</li> <li>• What is the population of interest?</li> <li>• Why is this mental health problem critical to the population?</li> </ul> Provide a clear rationale for choosing the population.	/12
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Part 1 (35%)	Intervention Description	Describe the digital health intervention, plus the goals, and objectives <ul style="list-style-type: none"> <li>What is the intervention?</li> <li>What is the purpose of the intervention?</li> <li>Clearly state the goals and objectives of the intervention.</li> </ul>	/6
	Stakeholder Summary	Lists all of the groups/individuals involved in the intervention development and implementation, and describe their role in the intervention <ul style="list-style-type: none"> <li>Who are the stakeholders?</li> <li>What is the rationale for choosing these stakeholders?</li> <li>Describe inter-disciplinary and intersectoral collaborations.</li> </ul>	/4
	Writing style	Document clarity, grammar, organization, and referencing	/3
	Intervention Framework	<ul style="list-style-type: none"> <li>What framework would be utilized and why?</li> <li>What socio-ecological determinants of health will be targeted and how?</li> </ul> Provide a clear rationale	/8
Part 2 (35%)	Implementation Plan	Describes the implementation process <ul style="list-style-type: none"> <li>How will you implement the strategy?</li> </ul> Think about logistics and practical steps <ul style="list-style-type: none"> <li>What is the type of intervention (policy, programming, community action, health services, etc.)?</li> <li>Describe the intervention setting (i.e., community, hospital, school, city etc). Be specific about the geographic scale and provide a rationale.</li> <li>What are the required resources?</li> </ul> What are the short, intermediate, and longer-term expected outcomes of the intervention?	/9.5
	Writing style	Document clarity, grammar, organization, and referencing	/2.5
Part 3 (30%)	Evaluation	Describe the methods you will use to evaluate the performance of your intervention <ul style="list-style-type: none"> <li>What are your methods (surveys/interviews)? Provide a rationale for choosing your methods.</li> <li>What are your indicators used to measure outcomes? Provide a rationale for choosing your indicators.</li> </ul>	/9
	Knowledge translation	<ul style="list-style-type: none"> <li>How will you disseminate your findings?</li> <li>Why is your chosen mode of dissemination appropriate for your project?</li> <li>What stakeholders will you involve and how?</li> <li>What are the next steps? How will you create capacity to increase the chances of long-term impact of your intervention?</li> </ul>	/8.5
	Writing style	Document clarity, grammar, organization, and referencing	/2.5

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

A+	90-100	<i>One could scarcely expect better from a student at this level</i>
A	80-89	<i>Superior work that is clearly above average</i>

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

It is expected that the grades for this course will fall 74-80. In the event that the course average falls outside this range, a constant may be added (or subtracted) from each student's grade, by the instructor, to bring the class average in line with school policy.

## 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.

### COVID-19 or Other Unexpected Interruptions

Contingency plan for an in-person class pivoting to 100% online learning:

In the event of a **COVID-19 resurgence or other unexpected issue (e.g. instructor illness)** during the course that necessitates the course delivery moving away from face-to-face interaction, 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 length of online delivery will depend on the nature of the interruption. The grading scheme will not change.** Completion of this course will require you to have a reliable internet connection and a device that meets the technical requirements for this service.

### 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 OWL Resources (notes, calendar, etc). Email the instructor.
Grade disputes and requests for appeals	<p>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.</p> <p>Visit the following website for guide on submitting an appeal:  <a href="https://uwo.ca/fhs/policies/appeals.html">https://uwo.ca/fhs/policies/appeals.html</a></p>