

UNIVERSITY OF MICHIGAN MEDICAL SCHOOL DEPARTMENT OF LEARNING HEALTH SCIENCES

Implementation Science in Health 1
LHS 621, Section 001
Fall 2023

CREDIT HOURS: 3

PRE-REQUISITES: Graduate level statistics course within the last 5 years

COURSE MEETING SPACE:

Med Sci 2, Room 2817
Thursdays 1-4pm

FACULTY

John P. Donnelly, PhD, MSPH, MS

Victor Vaughan building, Room 221
1111 E. Catherine St.

Email: jpdonn@umich.edu

(you will receive a reply to your email inquiries within 48 hours)

Office hours: by appointment; please contact me by email to make appointments at least 48 hours in advance.

Rama Mwenesi Musalia, PhD, MSE

Victor Vaughan building, Room 209
1111 E. Catherine St.

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(you will receive a reply to your email inquiries within 48 hours)

Office hours: by appointment; please contact me by email to make appointments at least 48 hours in advance.

COURSE DESCRIPTION

Many evidence-based health care interventions fail to produce successful outcomes when implemented into practice. Implementation and dissemination sciences comprise a multidisciplinary set of theories and methods to improve and expedite translating research evidence to everyday health-related practices. Both disciplines are systematic approaches to understanding how healthcare interventions can be better integrated into diverse practice settings and emphasize direct engagement with institutions and communities where health interventions take place. To optimize public health, it is essential to not only understand how to create the best interventions, but how to best ensure that they are effectively delivered within clinical and community practice.

COURSE OBJECTIVES

By completion of the course students will be able to:

- Examine dissemination and implementation, differentiating from quality improvement
- Recommend implementation and quality improvement methods to address problems
- Appraise mixed methods to support implementation and evaluation
- Evaluate the expected effect of their implementation plan using criteria
- Devise approaches for scaling up to larger numbers of organizations and settings
- Critique the role of their implementation plans on health disparities based on at least one vulnerable population
- Debate the role of dissemination and implementation in learning health cycles
- Recommend implementation and quality improvement methods to address problems by applying solutions in health through the learner's own problem and plan

CONTENT TOPICS

- Implementation practice
- Quality improvement methods
- Implementation interventions
- Process mapping
- Health equity
- Learning health systems

TEACHING METHODS

This is a residential course and will be taught in-person. In addition to the in-person classroom, Canvas will serve as the learning management platform for the course. In Canvas, you will interact with a community of your classmates and the instructor, access the learning materials and syllabus, discuss issues, submit assignments, participate in online activities, and present your projects.

Please note that the syllabus is a progressive document which will be updated frequently throughout the semester. Please plan to check in at least weekly to review any changes in upcoming work.

GRADING AND EVALUATION

Grading will be based on four evaluation methods. They are detailed below:

1. Six written assignments, worth 120 possible points
2. Ten discussion posts, worth 50 possible points
3. One class presentation, worth 50 possible points
4. Class participation, worth 10 possible points

GRADING POLICIES

No late assignments will be accepted without penalty. Unless an agreement has been reached in advance with the instructor, the student will lose two points for every day that the assignment is late. For example, if the assignment is worth 10 points and is turned in one day late, the maximum number of points for that assignment will be 8/10. Two days late will result in the maximum number of points being 6/10, and so on. Graded assignments will be returned through Canvas.

Final grades will be accessible through Wolverine Access; grades for each assignment will be posted through the Canvas course site. Overall course grades are posted within 72 hours of when the final course assignment component (typically the final course project report) is due. The course grade will be a letter grade (A – D, F) following the weighting described below. Grades will be assigned using this conversion scale:

A+ 97-100	B+ 87-89	C+ 77-79	D+ 67-69	F <60
A 93-96	B 83-86	C 73-76	D 63-66	
A- 90-92	B- 80-82	C- 70-72	D- 60-62	

Please note that unless otherwise noted and agreed on, all assignments are individual, and students are expected to work independently of each other. Please review University and School statements regarding violations of honor codes, plagiarism and other academic improprieties (<https://rackham.umich.edu/academic-policies/section8/>).

DLHS Grade Grievance Policy

Regular feedback on graded assignments and timely resolution of any grading concerns is helpful for student learning and overall positive experience. Students are encouraged to discuss any assignment grade concerns with the instructor(s) within two weeks of the grades being posted on Canvas. Similarly, any concerns and grievances related to the overall course grades should be raised by contacting the faculty of record within two weeks of the course grades being posted on Wolverine Access.

For this course, the grade dispute arbitration will happen within the Department of Learning Health Sciences (DLHS). After initial discussion with the faculty of record for the course, there is an opportunity for a second look by another DLHS faculty member with appropriate expertise for resolving grade disputes. If the student and faculty are not able to come to an agreement about the grade dispute, the Associate Chair for Educational Programs or assigned designee will adjudicate the dispute. Per Rackham's Academic Dispute Resolution Process, if the concern is not resolved, the student may seek a formal resolution conference with the Medical School's Rackham Resolution Officer (see <http://www.rackham.umich.edu/policies/academic-dispute-resolution> for full policy and the contact information for the current resolution officer).

REQUIRED TEXTS AND OTHER MATERIALS

- Weiner, B. J., et al. *Practical Implementation Science*. New York, Springer Publishing Company. (First Edition)

Additional readings: This course will use assigned readings including journal articles and book chapters, as well as government publications. All resources are available through the University of Michigan Library or through direct link to the resource. This will include chapters from the following text:

- Wensing, M., Grol, R., & Grimshaw, J. (2020). *Improving patient care: The implementation of change in health care*. John Wiley & Sons.

COURSE POLICIES

COVID-19 statement

We each have a responsibility for protecting the collective health of our community. Applicable safety measures are described on the U-M Health Response website - <https://healthresponse.umich.edu/>

[Links to an external site.](#) Please bookmark this site for policies, guidance, and FAQs.

Attendance

Students who are feeling ill should not come to class in person. Grades will not be negatively impacted by not attending class due to illness. Other than illness, students are expected to attend all classes and will only be excused for extenuating circumstances and cultural and religious holidays. These circumstances

shall be discussed with the instructor prior to missing class. If I do not hear from you prior to Monday at noon, I will assume that you plan to attend all class meetings. Students are expected to make up any work that is missed.

Expectations

This is a small class; therefore, discussions will be the key to learning during the course. There will be readings from supplemental sources that will prepare the student for discussions during class. Much of research is problem-solving; therefore, students will focus on difficult scenarios and questions that present challenging approaches. Some of the discussions will be based on a funded study implemented in the community setting and will address some of the most common decision-based scenarios students may face in the future as independent investigators. Students will also apply concepts to their own research ideas.

Digital Etiquette

Students should turn off ringtones and other audible alerts on their phones/tablets/laptops before class begins. The use of phones/tablets/laptops for non-course-related activities, such as texting, emailing, and social media is distracting to your classmates and instructors. If there is an emergency, please excuse yourself from the classroom to attend to it.

INSTITUTIONAL POLICIES

Academic Integrity of Students

The academic community, like all communities, functions best when its members treat one another with honesty, fairness, respect, and trust. Your instructors expect students to work and study together to foster learning and understanding of the material. However, direct copying of homework, copying of homework from existing solutions, cheating on an exam, and other conduct that violates the academic integrity and ethical standards of the Rackham Graduate School community cannot be tolerated and will result in serious consequences and disciplinary action.

All written submissions must be your own, original work. Original work for narrative questions is not mere paraphrasing of someone else's completed answer: you must not share written answers with each other at all. At most, you should be working from notes you took while participating in a study session. Largely duplicate copies of the same assignment will receive an equal division of the total point score from the one piece of work.

You may incorporate selected excerpts, statements or phrases from publications by other authors, but they must be clearly marked as quotations and must be attributed. If you build on the ideas of prior authors, you must cite their work. You may obtain copy editing assistance, and you may discuss your ideas with others, but all substantive writing and ideas must be your own or be explicitly attributed to another.

If we suspect you have cheated (including plagiarism), at the very least you will receive a zero on the assignment. Rackham policy dictates that we must report every instance of academic dishonesty, no matter how small. Suspected academic misconduct will be handled by Drs. Piatt and Kilbourne.

<https://rackham.umich.edu/academic-policies/section8/>

[Links to an external site.](#)

Student Academic Dispute Procedures

Rackham's Academic Dispute Resolution Policy and Procedures are available to Rackham students who have a dispute or disagreement with faculty or staff about the equity and fairness of decisions or procedures that affect their academic standing, the conduct of their research, and progress toward the degree. Such issues may arise regarding fair and equal treatment in the conduct of a class, in the pursuit of the student's research, and in the grading or evaluation of academic work and research. Other issues may concern the equity and fairness of program, department, or Rackham policies.

<https://rackham.umich.edu/academic-policies/section9/>

[Links to an external site.](#)

Diversity, Equity, and Inclusion

The Department of Learning Health Sciences (DLHS) is committed to developing the institutional mechanisms and norms necessary to promote the values of diversity, equity, and inclusion, both inside and outside our classrooms. To this end, DLHS upholds the expectations that all courses will: (1) be inclusive, (2) promote honest & respectful discussions, (3) follow multicultural ground rules and (4) abide by UM policies and procedures. Inclusive courses are those in which teachers and learners co-create and co-sustain environments that support and encourage all members to participate equitably.

<https://rackham.umich.edu/rackham-life/diversity-equity-and-inclusion/>

[Links to an external site.](#)

[Links to an external site.](#)

Accessibility and Accommodations

Students should speak with their instructors before or during the first week of classes regarding any special needs. Students seeking academic accommodations should register with Services for Students with Disabilities (SSD). SSD arranges reasonable and appropriate academic accommodations for students with disabilities. Please visit <https://ssd.umich.edu/accommodations>

[Links to an external site.](#) for more information on student accommodations.

Student Parents and Caregivers

If you are a pregnant, parenting student, or primarily responsible for providing care for a loved one or family member, and you need any accommodations, please let the instructor know at your earliest convenience. You may also reach out to mcasp.org

[Links to an external site.](#) and [CEW+](#)

[Links to an external site.](#) for resources and community support.

Student Mental Health and Well-Being

The University of Michigan is committed to advancing the mental health and wellbeing of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available. For help, contact Counseling and Psychological Services (CAPS) at (734) 764-8312 and <https://caps.umich.edu/>

[Links to an external site.](#) during and after hours, on weekends and holidays, or through its counselors physically located in schools on both North and Central Campus. You may also consult University Health

Service (UHS) at (734) 764-8320 and <https://www.uhs.umich.edu/mentalhealthsvcs> [Links to an external site.](#), or for alcohol or drug concerns, see www.uhs.umich.edu/aodresources

[Links to an external site.](#)

For a listing of other mental health resources available on and off campus, visit:
<https://caps.umich.edu/article/finding-your-community-provider-database-included>

[Links to an external site.](#) .

Sexual Misconduct/Sexual Harassment Reporting

Title IX prohibits sex discrimination to include sexual misconduct: harassment, domestic and dating violence, sexual assault, and stalking. If you or someone you know has been harassed or assaulted, you can receive confidential support and academic advocacy at the Sexual Assault Prevention and Awareness Center (SAPAC). SAPAC can be contacted on their 24-hour crisis line, 734-936-3333 and online at sapac.umich.edu

[Links to an external site.](#) Alleged violations can be reported non-confidentially to the Office for Institutional Equity (OIE) at institutional.equity@umich.edu. Reports to law enforcement can be made to University of Michigan Police Department at 734-763-3434.

Support for Food Insecurity:

Students across the country experience food insecurity at alarming rates. The Maize and Blue Cupboard at the University of Michigan provides food, kitchen and cooking supplies, personal and household items, and support services. For information about accessing their services, please visit <https://mbc.studentlife.umich.edu/>

[Links to an external site.](#)

Confidentiality and Mandatory Reporting

As instructors, one of our responsibilities is to help create a safe learning environment on our campus. Dr. Piatt also has a mandatory reporting responsibility related to her role as the Director of the Health Infrastructures and Learning Systems degree program. Instructors are required to share information regarding sexual misconduct or information about a crime that may have occurred on U-M's campus with the University. Students may speak to someone confidentially by contacting SAPAC's Crisis Line at (734) 936-3333.

COURSE ACTIVITIES, ASSIGNMENTS, DUE DATES, AND DIRECTIONS

Each week you will participate in class discussions and complete any assigned written assignments or exercises. Please refer to the guidelines and grading rubrics provided on Canvas.

Week	Date and Step	Topics	Instructor
1	Aug 31: Intro. and Foundational topics in Imp Sci	Part 1: Class intro, expectations, assignments Part 2: Imp Sci, QI, and the LHS learning cycle Part 3: Challenges in implementing evidence-based practices	Donnelly/Musalia Donnelly/Musalia Class
2	Sept 7: Assessment (Module 2A)	Part 1: Four step approach to implementation (Assessment, Preparation, Implementation, Evaluation) Part 2: Defining the Gap / Case Studies Part 3: Activity - Identifying the Practice Gap Discussion Due: Journal Club Article #1	Donnelly/Musalia Donnelly/Musalia Class
3	Sept 14: Assessment (Module 2B)	Part 1: Constructing a Research Question using PICO Part 2: Rapid literature review techniques Part 3: Activity - Practicing writing PICO statements Discussion Due: Journal Club Article #2	Donnelly/Musalia Donnelly/Musalia Class
4	Sept 21: Assessment (Module 2B)	Part 1: Identifying Research Questions Part 2: Activity Problem of Interest Due Discussion Due: Journal Club Article #3	Donnelly/Musalia Class
5	Sept 28: Assessment (Module 2C)	Part 1: Context analysis lecture Part 2: Interested party engagement and analysis Part 3: Activity – Who are your interested parties? PICO Assignment Due 11:59PM Discussion Due: Journal Club Article #4	Donnelly/Musalia Donnelly/Musalia Class
6	Oct 5: Preparation (Module 3A)	Part 1: Frameworks in Implementation and QI Part 2: Implementation Research Logic Model (IRLM) Part 3: Activity – IRLM work Interested Party Worksheet Assignment Due 11:59PM	Donnelly/Musalia Donnelly/Musalia Class
7	Oct 12: Preparation (Module 3B)	Part 1: Balancing Adaptation and Fidelity Part 2: Determinants Frameworks Part 3: Activity – Determinants identification and IRLM Discussion Due: Making Sense of Frameworks	Donnelly/Musalia Donnelly/Musalia Class

8	Oct 19:	1st Half of Class Summary/Questions Discussion Due: Adaptation and Fidelity	Donnelly/Musalia
9	Oct 26: Implementation (Module 4A)	Part 1: Implementation strategies introduction Part 2: ERIC framework and implementation strategies Part 3: Activity-challenges in addressing determinants of practice and defining implementation strategies Determinants Assignment Due 11:59PM	Donnelly Donnelly Class
10	Nov 2: Implementation (Module 4A)	Part 1: Implementation mapping Part 2: Engaging interested parties for implementation buy-in/pilot testing of implementation strategies Part 3: Activity - Implementation strategies and mechanisms of the IRLM Draft Logic Model Assignment Due 11:59PM Discussion Due: What Strategies Make Sense and Why	Donnelly/Musalia Donnelly/Musalia Class
11	Nov 9: Implementation (Module 4B)	Part 1: Implementation Science and Health Equity Part 2: Deeper Dive into Health Disparities Part 3: Activity – Health equity case study discussions Implementation Strategies Assignment Due 11:59PM	Donnelly/Musalia Donnelly/Musalia Class
12	Nov 16: Evaluation (Module 5A)	Part 1: Implementation evaluation frameworks Part 2: Implementation and evaluation within the learning cycle framework Part 3: Activity - Case study discussions - Process outcomes leading to improving patient outcomes Discussion Due: Health Equity Discussion	Donnelly/Musalia Donnelly/Musalia Class
13	No Class - Thanksgiving		
14	Nov 30: Evaluation (Module 5B)	Part 1: Proctor’s Implementation Outcomes Framework Part 2: Ethical Considerations Part 3: Activity – ethical issues in implementation projects Evaluation Assignment Due 11:59PM Discussion Due: Scale Up & Sustainability	Donnelly/Musalia Guest Speaker

15	Date TBD	<p>Tying it all together - Students present their IRLM templates, detailing their implementation projects covering the case study with overview description of each component of the model</p> <p>Discuss results- similarities, differences, limitations, advantages and disadvantages of using the IRLM, future work for next LHS learning cycle</p> <p>Final Logic Model Presentation Due 1:00PM</p> <p>Discussion Due: Ethical Considerations</p>	Class
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ASSIGNMENTS, DUE DATES, AND DIRECTIONS

- A. **Six written assignments**, worth 120 possible points (20 points each)
1. PICO Assignment
 2. Interested Party Worksheet Assignment
 3. Determinants
 4. Implementation Logic Model Draft Assignment
 5. Implementation Strategies
 6. Evaluation
- Please refer to the grading rubrics provided on Canvas.
- B. **Ten Discussion Posts worth 50 possible points**
- C. **Final Class Presentation**, worth 50 possible points
The class presentation will be your opportunity to tie all of the pieces of the implementation logic model together.
- D. **Class participation**, worth 10 possible points
Participation in course activities is mandatory. There will be designated activities during the class. There will be several options to earn participation points throughout the course.

READINGS

Forthcoming