GMS 6853: Implementation Science in the Learning Health System

Department of Health Outcomes and Biomedical Informatics

University of Florida College of Medicine

Semester: Spring 2026

Credits: 3

Instructor: Jennifer H. LeLaurin, PhD, MPH

Malachowsky Hall #7124

(352) 294-5993; jlelaurin@ufl.edu

Office hours: Posted on Canvas and by appointment

Textbook: N/A

COURSE DESCRIPTION

The implementation of evidence-based practices is critical for addressing gaps in the delivery and effectiveness of health care. Translating research into practice is a complex process that involves engagement from multiple stakeholders, which facilitates the adoption of evidence-based interventions into health care and contributes to the sustainability of interventions. Implementation science seeks to: (1) understand the barriers and facilitators that influence successful implementation of effective interventions, (2) design strategies to foster the adoption of best practices, and (3) enhance the extent to which intervention research is generalizable, representative, and ultimately scalable. Combined with implementation science, more rigorous dissemination efforts beyond traditional academic venues are needed to increase outreach into real-world settings.

This course provides a framework for examining implementation science and its application to clinical research. Because implementation science is rooted in real-world settings, the focus of the course is twofold:

- First, the course focuses on examining different study designs in implementation science, and the strengths and limitations of different approaches.
- Second, the course provides real-world experience for the students by pairing them with a researcher and a topic expert to design an implementation science approach and dissemination activities that address a real-world clinical concern.

To meet these objectives, students will develop an implementation science proposal that addresses a real-world clinical challenge, in consultation with a researcher and a topic expert. Topic experts may include a collaborating clinician, community agency/group representative, technical expert, or Community Scientist. Students already conducting research that could benefit from implementation science may choose to select their own topics and collaborators. The engagement of researchers is essential to ensure that the appropriate scientific expertise is available to guide the development of the proposal. The engagement of topic experts is essential to ensure that the proposal effectively addresses critical health issues facing patients.

During the course, the students will develop their projects in consultation with their selected researcher and topic expert and engage in didactic videoconference discussion sessions. At the end of the semester, students will present their projects to the class.

AUDIENCE

The course is designed for advanced masters-level and doctoral-level students in health outcomes, biomedical informatics, medicine, public health, and other health professions, as well as advanced students in public policy, sociology, psychology or other social sciences with plans for a career in health research. Prerequisites are GMS 6851 (*Fundamentals of Dissemination and Implementation Research*) and permission of the instructor.

COURSE GOALS

The primary goals of this course are to enhance students': 1) knowledge of implementation science; 2) ability to critically evaluate studies focused on implementation science; and 3) real-world experience in designing an implementation science study. More specifically, students who successfully complete the course will be able to:

1. Discuss and apply the theoretical underpinnings of implementation science.
2. Explain barriers and facilitators to the implementation and dissemination of research findings and methods to address those barriers.
3. Describe the major categories of study designs that are used in conducting implementation research and strategies for engaging key stakeholders in the research process.
4. Describe the importance of contextual factors and assessing multiple outcomes when designing implementation research studies, and
5. Critically evaluate implementation science studies by assessing the strengths and limitations of the study design and measures selected for informing health care decision-making in real-world settings.

METHODS OF INSTRUCTION

This is an asynchronous online course, in which the lectures are delivered as recordings through the canvas course page. The course is divided into 8 modules. Each module consists of online lectures, readings, and assignments or quizzes.

EVALUATION

Course assignments and quizzes will be weighted as follows:

Assignment	**Weight**
Quizzes	10%
Exercises	10%
Discussion Posts	15%
Peer Feedback	5%
Project Assignments	60%
Project significance draft	*5%*
Project consultation assignment	*15%*
Project presentations (2)	*15%*
Written proposal	*25%*

Quizzes & Exercises

Quizzes and application exercises will assess comprehension of module lectures and readings. Students will complete three quizzes and two application exercises over the course of the semester.

Discussion Posts

Students are expected to contribute to discussion forums by posting thoughtful responses to prompts, engaging with peers' viewpoints, and ensuring their posts demonstrate critical analysis of course material. Students will complete three discussion posts over the course of the semester.

Course Project

Students will develop an implementation science research proposal in collaboration with a researcher and a topic expert. Course project assignments are described below and on Canvas.

Term Paper / Proposal Development

Students will develop a written implementation science proposal in collaboration with a researcher and a topic expert. Detailed guidelines for proposal development will be provided in Canvas.

Significance Draft

Near the beginning of the semester students will prepare a draft significance (i.e., background section) draft for their proposal. The instructor will provide feedback to help guide subsequent project assignments.

Consultations with Topic Experts

For their semester proposal assignment, students are encouraged to topic experts with whom they already have an established working relationship. This allows students to build upon their own graduate thesis or dissertation work, or the work of their mentors and advisors, and develop an implementation science strategy that has the potential to enhance existing projects. For students who do not have their own topics, resources will be provided in the first two weeks of the course for identifying potential implementation science topics that are important to clinicians, patients, and researchers.

Students will complete a graded consultation assignment, which involves a videoconference consultation with their topic expert, and includes a PowerPoint presentation and interview guide that will be used during the consultation, and meeting notes that will be submitted after the consultation. To assist students in understanding what to expect from this collaboration, the following guidelines are provided.

1. Students will prepare a PowerPoint presentation to discuss with the topic expert that describes the purpose, aims and suggested interventions to promote the uptake of evidence-based best practices.
2. Students will develop an interview guide to solicit feedback from the topic expert about: 1) adaptations that should be considered before the protocol could be implemented in a clinical or community setting, 2) barriers that may be encountered, and 3) strategies that could facilitate implementation.
3. Students are expected to present their proposal to the topic expert, conduct the interview, and obtain feedback.
4. Students will prepare consultation meeting notes (2 to 3 pages).

Note: For any papers or presentations that are developed from this work, the topic expert should be included as one of the authors.

The decision of which type of topic expert to collaborate with depends on the specifics of the proposed project. For projects that address implementation of a clinical intervention, a clinician collaborator specializing in the appropriate field is recommended. Projects that involve a high level of interaction with patients or community members will benefit most from collaboration with a Community Scientist. Projects that address community-level interventions will benefit from collaboration with a leader or representative from a community agency or organization. Projects that propose a technical implementation strategy (e.g., new EHR functionality) will benefit from collaboration with an expert specializing in the specified technology.

Midterm and Final Presentations

Students should prepare a well-designed set of slides in a PowerPoint file, which you will use during your midterm and final presentations. Design each visual carefully to illustrate the main points. Detailed instructions will be available in Canvas.

Peer Feedback

Students will provide feedback to their peers' discussion posts, presentations, and other assignments. Peer feedback should be thoughtful, constructive, and respectful.

GRADING

Grades will be assigned as follows:

Letter Grade	Grade Points	Grade Percentage
A	4.0	95-100
A-	3.67	90-94
B+	3.33	87-89
B	3.0	83-86
B-	2.67	80-82
C+	2.33	77-79
C	2.0	73-76
C-	1.67	70-72
D+	1.33	67-69
D	1.0	63-66
D-	.67	60-62
E	0	59 and below

For additional grading policy information, you may visit the undergraduate catalog web page at: https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx.

COURSE POLICIES AND RESOURCES

Academic policies and resources are detailed here: https://go.ufl.edu/syllabuspolicies

SCHEDULE OF TOPICS AND READINGS

Module	Topic	Assignments
Module 1	Implementation Science and Learning Health Systems	• Discussion post 1 • Quiz 1 • Select project topic & potential consultants
Module 2	Research Approaches	• Quiz 2 • Finalize project topic & consultant • Peer feedback – significance draft
Module 3	Qualitative and Mixed Methods Research	• Discussion post 2 • Project consultation interview guide & slides • Significance draft peer feedback
Module 4	Implementation Strategies: Mechanisms and Selection	• Causal pathway exercise • Project consultation and meeting notes
Module 5	Measurement and Evaluation	• Conceptual model exercise • Midterm presentations
Module 6	Adaptations	• Quiz 3 • Peer feedback – midterm presentations
Module 7	AI, Implementation Science, and the Learning Health System	• Discussion 3
Module 8	Conclusion	• Final project presentation • Peer feedback – final presentation • Final written proposal

This syllabus is subject to change at the instructor's discretion to meet the needs and goals of the course. Revisions will be announced in class and/or on Canvas.