Implementation Science for Global Maternal & Child Health – 3 credit hours
MHCH 890.001.SP17

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A. **Course Description:** This graduate level course is an introduction to implementation science with an emphasis on its application for global maternal and child health. The course will first highlight current challenges in global maternal and child health and the role of implementation science in addressing them, including the development of practice-based research activities and the provision of technical support for program implementation. The course then will define current implementation research frameworks and active implementation frameworks and describe the interface between improvement science and implementation science. Students will have the opportunity to work in groups and independently.

**Course Competencies:**
1. Understand how implementation issues, causes and solutions are approached differently by various stakeholders.
2. Explain why implementation science is necessary for achieving global maternal and child health goals and objectives and how it contributes to designing policies and interventions/programs that are implementation-informed and fit to local contexts.
3. Describe frameworks for applied implementation and implementation research and characterize the differences.
4. Develop or tailor approaches and activities to successfully implement an intervention using an appropriate implementation science framework.
5. Identify and apply stage-appropriate implementation strategies to address barriers at all levels of the system.

B. Course Prerequisites: There are no prerequisites for MHCH 890.001.SP17. Since this is a hybrid course with online components, students are expected to have access to the internet.

C. Course Resources: Course resources, including readings, lectures, and videos, will be available on the Sakai site as VoiceThreads, web links and pdf documents.

D. Assignments:
1. Weekly assignments:
   Completion of all assignments is required to ensure comprehension of the topic and to master application of the material to real world problems. Students are expected to be actively engaged in all class discussions both in-class and on the Sakai discussion boards and to contribute to the discourse in a positive and valuable manner. As the learning objectives of this hybrid course rely heavily on both online and classroom instruction, students should make every effort to attend the six scheduled in-person classes. Students who expect to miss a class should inform the instructors in advances. If more than two classes are missed without notice, points will be deducted from the participation portion of the grade. In this course, there will be several assignments that involve students working together in a group. Students are expected to work collegially with the team and to participate fully in the group’s activity by completing assigned tasks, providing meaningful and constructive feedback, and meeting pre-determined group deadlines. Accessing the Sakai site several times during the week will be required to facilitate work being done in a timely manner. Students who expect to be unable to log on to Sakai should inform the instructors and fellow group members in advance. Assignments are expected to be turned in on time. If assignments cannot be turned in on time, an explanation should be provided to the instructor. Assignments submitted more than a week late without such notice or without appropriate justification will be subject to a penalty, i.e., points will be deducted.

2. Final Group Presentations:
   Each group will select one of two options listed below citing resources and references from the course and other resources that were used to build your case.
   **Option 1:** Students will select an implementation issue/problem in global maternal and child health and apply what they learned regarding implementation science (frameworks, tools, and evaluations) to recommend a course of action that would help policy makers, funders, or a community (choose one group) within the global health context to solve the issue.
   **Option 2:** Students will select a global maternal and child health program and recommend implementation or improvement methodologies to improve program effectiveness and outcomes.

E. Final grade scale:
The distribution of points for each course requirement is shown below:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>% of Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Individual Assignments</td>
<td>50%</td>
</tr>
<tr>
<td>2) Group Assignments</td>
<td>15%</td>
</tr>
<tr>
<td>3) Participation</td>
<td>15%</td>
</tr>
</tbody>
</table>
## Specific Assignments

<table>
<thead>
<tr>
<th>Assignment</th>
<th>% of Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignment 1</td>
<td>5%</td>
</tr>
<tr>
<td>Assignment 2</td>
<td>15%</td>
</tr>
<tr>
<td>Assignment 3</td>
<td>5%</td>
</tr>
<tr>
<td>Assignment 4</td>
<td>20%</td>
</tr>
<tr>
<td>Assignment 5</td>
<td>5%</td>
</tr>
<tr>
<td>Assignment 6</td>
<td>15%</td>
</tr>
<tr>
<td>Assignment 7</td>
<td>20%</td>
</tr>
<tr>
<td>Participation</td>
<td>15%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Individual, group assignments, and final group presentation will be graded on the following dimensions:
- Clear and appropriate application of course materials and other resources, and citation of resources (50 percent)
- Effective and logical analysis, including the use of figures and tables when required (35 percent)
- Originality (15 percent)

Using these criteria, individual assignments will be graded on a 10-point scale; group assignments will be graded on a 4-point scale; and participation will be graded on a 1-point scale.

Numeric grades will be given for assignments, but a letter will be given for the final course grade. Grading will be according to the following scheme:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>Clear Excellence</td>
</tr>
<tr>
<td>P</td>
<td>Entirely Satisfactory</td>
</tr>
<tr>
<td>L</td>
<td>Low Passing</td>
</tr>
<tr>
<td>F</td>
<td>Fail</td>
</tr>
</tbody>
</table>

Typically, H grades are given to those scoring 90% or above, P to scores of 70% and above, and L to scores of 55% and above. These are guidelines, and are not meant to be absolute numbers.

A grade of H will indicate effort beyond the expectations of the assignment and production of an exceptional output. A P is completely acceptable and indicates meeting the expectations of the assignment. An L indicates a passing performance, but that the effort is minimally acceptable.

### F. Course Evaluation

Course participation includes completion of the UNC-CH’s online course evaluation. Your responses will be anonymous, with feedback provided to the instructors in the aggregate. Open-ended comments will be shared with instructors, but individual students are not identified. Providing constructive course evaluative feedback is a professional responsibility. We appreciate your feedback as it is critical for improving the quality of our courses.
G. Course Information
For general course questions, please contact the teaching assistant, Ms. Caitlin Williams (mailto:williacr@live.unc.edu). Faculty are always available electronically, but for questions concerning weekly assignments please refer to the course At A Glance summary for specific instructor contacts. For an appointment with Dr. Peterson, please contact Ms. Kathy Biancardi (kathy_biancardi@unc.edu).

H. Honor system: As part of the UNC Honor Code as set forth in the Instrument of Student Judicial Government, Carolina students pledge to maintain ideals of academic honesty, personal integrity, and responsible citizenship. When a student applies to Carolina, he/she undertakes a commitment to the Honor Code principles. The University endeavors to instill in each student a love of learning, a commitment to fair and honorable conduct, and respect for the safety and welfare of others. It also strives to protect the community from those who, for whatever reason, do not embody these values in their conduct, and to protect the integrity of the University and its property for the benefit of all.

I. On-line course evaluation: The Gillings School uses an anonymous on-line evaluation system to assess the quality of instruction and learning. The system opens during the last week of class. The instructors will only see the aggregate data with any comments at the end of the course and after grades are turned in. It is your responsibility as a student to complete the evaluations. You will be sent multiple email reminders until it is completed.

J. Valuing, recognizing and encouraging diversity: Promoting and valuing diversity in the classroom enriches learning and broadens everyone’s perspectives. Inclusion and tolerance can lead to respect for others and their opinions and is critical to maximizing the learning that we expect in this course. Our own closely held ideas and personal comfort zones may be challenged. The results, however, create a sense of community and promote excellence in the learning environment. Diversity includes considerations of (1) the variety of life experience others have had, and (2) factors related to “diversity of presence,” including, age, economic circumstances, ethnic identification, disability, gender, geographic origin, race, religion, sexual orientation, and social position. This class will follow principles of inclusion, respect, tolerance, and acceptance that support the values of diversity.

Welcome to MHCH 890.001.SP17 - Pre-Course Welcome and Orientation

Objectives: After completing this module, students will: improve their understanding of on-line learning skills, develop their own strategy for on-line learning and for group learning, improve their on-line communications skills and become familiarized with the Sakai site.

Watch: Welcome by Dr. Herbert Peterson in VoiceThread

Required Readings:
How Students Develop Online Learning Skills
http://er.educause.edu/articles/2007/1/how-students-develop-online-learning-skills

Five-step Strategy for Student Success with Online Learning

How to Succeed in Group Work
Communicating Effectively
http://learningcommons.ubc.ca/student-toolkits-2/working-in-groups/communicating-effectively/

Sakai Frequently Asked Questions
http://sakaitutorials.unc.edu/module_build.php?tag=syllabus

VoiceThread Tutorial

BlueJeans Tutorial

PART I: Global Health Overview

Week 1 – Global Health Context: Challenges and Opportunities
January 13 In-Person Class

Learning Objectives: After completing this module, students will have learned about global health goals, objectives, priorities, and interventions for achieving them, the global health context, and the challenges and opportunities presented with the new Sustainable Development Goals (SDGs).

In-Person Class Time:
Class time will be divided into three segments:
1. Students will introduce themselves (approximately two minutes each) describing their experience in global health and/or program development, management, evaluation and implementation, what they have been able to accomplish, what they hope to accomplish and how the course may contribute.
2. Discussion of Dr. Peterson’s presentation and this week’s readings – to include challenges faced as we transition from the Millennium Development Goals to the Sustainable Development Goals and the implications of these challenges on global maternal and child health policy and programming.
3. Information regarding pending individual and group assignments. (See Assignments Summary).

Required Readings:

Sustainable Development Goals Global Sustainable Development Report, Chapter 1
https://sustainabledevelopment.un.org/content/documents/10783Chapter1_GSDR2016.pdf


**Week 2 – Implementation Science for Global Health: Why is it needed?**

**January 20 In-Person Class**

**Learning Objectives:** After completing this module, students will have a deeper understanding of the global health context and challenges related to health systems and the health workforce in low and middle income countries. They will also better understand the role of innovations, a stronger focus on implementation of innovations, and implementation science in addressing these challenges.

**In-Person Class Time:**
Class time will be divided into two segments:
1. Discussion of Dr. Peterson’s presentation and this week’s readings.
2. Assigned groups will meet to begin preparing for presentations due in class on January 27. (See Assignment Summary – Assignment 1).

**Required Readings:**


**Optional Readings:**


**Prepare:**
Assignment 1 (Group). See Assignments Summary on Sakai.
PART II: Implementation Science Overview

Week 3 – History and Why Implementation is Important
January 27 In-Person Class

Learning Objectives:
After completing this module, students will be able to define implementation, explain implementation in the context of moving research to practice, and describe the evolution of the field of implementation science.

In-Person Class Time:
Class time will be divided into three segments:
1. Groups will give their PowerPoint presentation (Assignment 1) and students will discuss each presentation.
2. Discussion of this week’s readings. Students should be prepared to discuss how implementation matters.
3. Information regarding pending Assignment 2 (Individual) and Online Forum A.

Required Readings:

Optional Readings:

Watch:
IBM Innovation Man: https://www.youtube.com/watch?v=MudaxA80eI4
Implementation science-overview: http://media.sph.unc.edu/adobe/mch_ole/Foundations/Implementation_Science/
What is Implementation Science: http://www.implementation.eu/implementation
Implementation Quick Start: https://unc-fpg-cdi.adobeconnect.com/_a992899727/ai-lesson-quickstart/

Prepare:
Assignment 2 (Individual). See Assignments Summary on Sakai.
Week 4 – Intro to Applied Implementation & Implementation Research  
February 3

Learning Objectives:
After completing the next three modules, students will be able to identify both applied and implementation research frameworks and differentiate between applied implementation and implementation research based on their readings and review of frameworks.

Required Readings:


Optional Reading:

Watch:
Applied Implementation - Dean L. Fixsen https://www.youtube.com/watch?v=MuKLOhqeL-g

Participate:
Online Forum A

Week 5 – Applied Implementation Frameworks  
February 10

Learning Objectives for Weeks 5 and 6:
Identify both applied and implementation research frameworks and differentiate between applied implementation and implementation research based on the readings and review of frameworks.

Required Readings:


Watch:
Video Vignette 13: Active Implementation & Scaling up [http://implementation.fpg.unc.edu/module-1/rationale](http://implementation.fpg.unc.edu/module-1/rationale)

An Overview of Active Implementation Frameworks: [http://implementation.fpg.unc.edu/module-1](http://implementation.fpg.unc.edu/module-1)

Participate:
Online Forum A

Prepare:
Assignment 3 (Group). See Assignments Summary on Sakai.

**Week 6 – Implementation Research Frameworks**
**February 17**

**Required Readings:**


Watch:
John Landsverk: Mixed Methods and Measures in Implementation Research: [https://www.youtube.com/watch?v=uT5nnyMGobQ](https://www.youtube.com/watch?v=uT5nnyMGobQ)

Participate:
Online Forum A

Prepare:
Assignment 3 (Group). See Assignments Summary on Sakai.
PART III: Implementation in Practice: Creating Conditions for Successful Implementation

Week 7 – Common Factors Related to Successful Implementation
February 24 In-Person Class

Learning Objectives:
After completing this module, students will be able to identify and describe common factors required for successful implementation across implementation science frameworks, assess and discuss differences between implementation science frameworks, and describe common implementation processes (steps and activities).

In-Person Class Time:
Class will be divided into three segments:
1. Groups will give their PowerPoint presentation (Assignment 3) and students will discuss each presentation.
2. Discussion of this week’s readings.
3. Students will provide mid-course feedback.

Required Readings:


Watch:
Advanced Topics for Implementation Science Research: Use of Theory in Implementation Research: EPIS https://www.youtube.com/watch?v=OYw6g0F1rTs

Prepare:
Assignment 4 (Individual). See Assignments Summary on Sakai.
Week 8 – Understanding the Implementation Science Context
March 3

**Learning Objectives:**
After completing this module, students will be able to define inner and outer context; identify and describe the multi-level context for implementation of an evidence-based program; identify and describe key actors, implementation strategies and outcomes at each level of the system.

**Required Readings:**


**Optional Readings:**


**Prepare:**
Assignment 4 (Individual). See Assignments Summary on Sakai.

Week 9 – Evidence for Decision-Making
March 10 In-Person Class

**Learning Objectives:** After completing this module, students will understand the concepts of evidence-based medicine, evidence-based public health practice, and evidence-based implementation.

**In-Person Class Time:**
Class time will be divided into two segments:
1. Discussion of Dr. Peterson’s presentation and discussion of this week’s readings.
2. Information on Online Forum B.

Required Readings:


Sackett DL, Rosenberg WMC, Gray JAM, Haynes RB, Richardson WS. Evidence based medicine: What it is and what it isn’t. *BMJ* 1996;312(13 Jan):71-72. doi: http://dx.doi.org/10.1136/bmj.312.7023.71


Additional Optional Resources:

**Week 10 – Stages and Phases of Implementation**

**March 24**

**Learning Objectives:**
After completing this module, students will be able to identify and describe the common stages/phases of implementation, describe key activities in each stage of implementation, and develop a plan to apply this knowledge to assess the implementation stage of initiatives in global health.

Required Readings:


Van Dyke M, Naoom S. The critical role of state agencies in the age of evidence-based approaches: The challenge of new expectations. *J Evidence-based Soc Work* Published online: 14 Jun 2015 [http://dx.doi.org/10.1080/15433714.2014.942021](http://dx.doi.org/10.1080/15433714.2014.942021)

Watch:
Stages of Implementation Module- [http://implementation.fpg.unc.edu/module-4](http://implementation.fpg.unc.edu/module-4)
Stages of Implementation Analysis: Where are we?
https://unc-fpg-cdi.adobeconnect.com/_a992899727/ai-lesson7/

Participate:
Online Forum B

Prepare:
Assignment 5 (Group). See Assignments Summary on Sakai.

PART IV: Implementation Quality

Week 11 – Implementation Capacity
March 31 – In-Person Class

Learning Objectives:
After completing this module, students will be able to identify and describe the drivers of successful implementation and apply this knowledge to assess the implementation drivers in practice.

In-Person Class Time:
Class will be divided into three segments:
1. Groups will give their PowerPoint presentations (Assignment 5) and students will discuss each presentation.
2. Discussion of this week’s readings.
3. Information regarding pending Assignment 6 (Individual)

Required Readings:

Metz A, Bartley L. Active Implementation Frameworks for Program Success: How to Use Implementation Science to Improve Outcomes for Children. Zero to Three Chapel Hill, NC 2012; March:11-18. (Repeated Reading)


Watch:
Implementation Drivers:
http://implementation.fpg.unc.edu/module-2

Drivers Ed-Selection:

Case Example: Reflection and Application of Implementation Drivers in Minnesota - Vicky Weinberg, Minnesota Department of Education- http://implementation.fpg.unc.edu/resources/video-vignette-08-activity-25a

Prepare:
Assignment 6 (Individual). See Assignments Summary on Sakai.

**Weeks 12 and 13 – Evaluation and Continuous Quality Improvement**  
April 7 (no class April 14 due to UNC Holiday)

**Learning Objectives:**  
After completing this module, students will be able to define core components, as they relate to interventions; define fidelity and describe the common factors that comprise the construct of fidelity; and explain the role of fidelity in explaining program outcomes. Students also will be able to discriminate between evaluating implementation and evaluating outcomes.

**Module 5: Improvement Cycles**  
http://implementation.fpg.unc.edu/module-5

**Lesson 6: The PDSA Cycle**  

**Required Readings:**  
Blasé K, Fixsen D. Core intervention components: Identifying and operationalizing what makes programs work. ASPE Research Brief.  
http://aspe.hhs.gov/hsp/13/KeyIssuesforChildrenYouth/CoreIntervention/rb_CoreIntervention.pdf


**Optional Readings:**  


Watch /Listen:
Evaluating Implementation and Performance to Improve Program Quality
http://dwwlibrary.wested.org/media/evaluating-implementation-and-performance-to-improve

Fidelity and Implementation -
http://media.sph.unc.edu/adobe/mhch890/fidelity/

Prepare:
Remainder of Assignment 6 (Individual). See Assignments Summary on Sakai.

PART V: Strategies for Scaling and Sustaining

Week 14 – Scalability and Sustainability
April 21 – In-Person Class

Learning Objectives: After completing this module, students will understand the different scale up perspectives and methods intended to increase the impact of global health programs. They will also understand issues regarding program sustainability and why some health programs fail after implementation.

In-Person Class Time:
Class will be divided into two segments:
1. Discussion of Dr. Peterson’s presentation and this week’s readings.
2. Begin preparation of final group presentation to be submitted on VoiceThread in Sakai April 28 by 5:00 pm.
3. Reminder to complete course evaluation by April 28.

Watch Video:
David Chambers: Advancing the Science of Sustainability
https://www.youtube.com/watch?v=N6PUZ4PxhrM

Required Readings:


Tommeraas T, Ogden T. Is there a scale-up penalty? Testing behavioral change in the scaling up of parent management training in Norway. *Adm Policy Ment Health published online Dec 29 2015*.

**Optional Readings:**


**Complete online course evaluation by Friday, April 28.**

**Week 15 – Lessons Learned in Global Health Implementation**
**April 28**

**Watch:** Concluding remarks by Dr. Herbert Peterson

Final group VoiceThread presentations due today. See Assignments Summary on Sakai.

Complete the Course Evaluation.