

# MHCH 859

## Theoretical Foundations of Maternal and Child Health

(3 Credits)  
Fall, 2016

**Instructor**

Jon Hussey

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Office hours by appt.

**Course Website:** Accessible through Sakai, at <http://sakai.unc.edu/>**Meeting Time**

Tuesday/Thursday, 3:30 – 4:45

**Meeting Place**

2302 McGavran-Greenberg

**Course Overview**

This course provides an introduction to philosophical, theoretical, and design issues relevant to maternal and child health research. It follows the research process from the formulation of a research question and conceptual model through the design of a research methodology to address the question, and finally to the preparation of a National Institutes of Health (NIH) grant application to study the question. Typically the Tuesday class meeting will include lecture/discussion. The Thursday class meeting will be in workshop format, devoted to discussion of components of student proposals. This course is intended for doctoral students who plan a research career that entails application of theory to conceptualize research questions and the procurement of external research funding.

**Prerequisites**

Permission of the instructor to enroll in this course is required for non-MCH doctoral students. Students should have a strong background in research design and analytical methods.

**This course addresses the following SPH competencies:**

## THEORY AND METHODOLOGY

Identify basic theories, concepts, and models from a range of social and behavioral disciplines that are used in public health research and practice.

Discuss social, behavioral, environmental and biological factors that contribute to specific individual and community health outcomes.

Describe preferred methodological alternatives according to the type of study design for answering a particular question.

## DIVERSITY AND CULTURAL COMPETENCY

Demonstrate awareness of and sensitivity to the varied perspectives, norms, and values of others based on individual and ethnic/cultural differences (e.g., age, disability, gender, race, religion, sexual orientation, region, and social class).

## COMMUNICATION

Demonstrate effective written and oral health communication skills appropriately adapted to professional and lay audiences with varying knowledge and skills in interpreting health information.  
Utilize information technology tools effectively in core public health functions such as retrieval of institutional and online public health data and dissemination of public health information.  
Engage in collective information sharing, discussion, and problem solving.

## PROFESSIONALISM AND ETHICS

Review, integrate, and apply ethical and/or legal principles in personal and professional interactions, as well as public health practice and/or research.

### Teaching Objectives

- To introduce students to theories at the levels of individuals, organizations, and communities that are useful in maternal and child health research;
- To prepare students to develop a succinct literature critique on a research topic of interest;
- To develop students' skills in developing testable research questions and conceptual models;
- To develop students' skills in selecting appropriate research designs and developing data analysis plans for both primary and secondary data;
- To convey methodological concerns that must be addressed in preparing an NIH grant proposal, including protection of human subjects;
- To introduce students to the NIH research grant system;
- To develop students' grant writing skills by preparing an NIH grant; and
- To prepare students to critically review grants written by others.

### Learning Objectives

After completing this course, students will be able to:

- Apply theory to maternal and child health research to generate hypotheses and constructs;
- Prepare a literature critique on an MCH topic;
- Develop testable research questions, hypotheses, and conceptual models that are derived from theory;
- Select a research design and prepare a data analysis plan to test a research question;
- Describe ways in which research designs can ensure human subject protection;
- Complete an NIH grant proposal;
- Critically review the research proposals of others.

## Course Expectations and Requirements

### A. Readings

#### Required readings:

Yang, O. (2012). *Guide to effective grant writing: How to write an effective NIH grant application, 2nd edition*. New York: Kluwer Academic/Plenum Pub. (Note: available as e-book at UNC library)

Journal articles are also used for the course and are available via the course's Sakai website (see "Resources" tab). See class schedule for full information. Readings are listed under the weekly class sessions to which they apply. Additional readings may be added throughout the semester. Students are expected to read the assigned readings before each class session and be prepared to discuss them.

#### Recommended resources:

Glanz K, Rimer BK, & Viswanath K (Eds.) *Health Behavior: Theory, Research and Practice, 5th edition* (2015). (available as e-book via UNC library catalog)

DiClemente, Crosby, & Kegler (Eds.) *Emerging Theories in Health Promotion Practice and Research*, 2nd edition (2009).

Campbell DT, Stanley JC. *Experimental and Quasi-experimental Designs for Research*. Chicago: Rand McNally, 1966.

Shadish WR, Cook TD, Campbell DT. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Boston MA. Houghton Mifflin Co.

Russell SW, Morrison DC. (2016, April). The Grant Application Writer's Workbook (National Institutes of Health Version).

## **B. Class Participation, Assignments, Grading**

Class Participation (10% of course grade)

Weekly class attendance is expected. Students are expected to complete reading assignments, engage with speakers, take an active role in class discussion, and complete intermediate assignments that will be used to facilitate discussion and serve as drafts of proposal segments.

Class Presentation (15% of course grade)

(See document "Instructions for student-led modules" in Sakai resources tab with syllabus)

Specific Aims and Significance Sections (20% of course grade)

Balance of "Research Strategy" [Innovation, Approach, Investigators, and Environment Sections] (20% of course grade)

Critical Review of a Peer's Grant Proposal (10% of course grade)

Completed Grant Proposal (maximum of 1 page for specific aims and 6 pages for research strategy); (25% of course grade)

### **Your full proposal package will include:\*\***

- Biosketch (note current NIH format)
- Budget and Budget Justification
- Specific Aims of the Study (1 page)
- Research Strategy (max 6 pages)
  - Significance (including conceptual model)<sup>1</sup>
  - Innovation
  - Approach
  - Investigators
  - Environment
- Human Subjects
- Literature cited

\*\*required proposal package may be adapted to NIH F31 or other required formats

## **C. Course Policies**

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<sup>1</sup> You will work on the conceptual model while you're working on specific aims, but in the final proposal it likely will be placed in the approach section.

**Absences:** Students should speak with the instructor in advance of an absence from class. Excessive absences ( $\geq 3$ ) will be reflected in a lower grade for class participation.

**Late assignments** are only accepted with advance approval from the instructor. Grades on late assignments (not approved in advance) are lowered by one letter grade for each day they are late.

**Honor Code:** Students must observe the Honor Code in all course assignments. You are expected to produce your own work, except where group work is allowed (i.e., workshop discussions, assignments entailing feedback to peers). You must not plagiarize the work of others. The instrument defining the Honor Code defines plagiarism as "deliberate or reckless representation of another's words, thoughts, or ideas as one's own without attribution in connection with submission of academic work, whether graded or otherwise." If you have questions about your responsibility under the honor code, please bring them to the instructor or consult with the office of the Dean of Students or the Instrument of Student Judicial Governance. This document, adopted by the Chancellor, the Faculty Council, and the Student Congress, contains all policies and procedures pertaining to the student honor system. Please include the following pledge on all written assignments: "On my honor, I have neither given nor received unauthorized aid on this assignment."

The instructor reserves the right to make changes to the syllabus, including project due dates, when unforeseen circumstances occur. These changes will be announced as early as possible so that students can adjust their schedules.

### C. Online Course Evaluation

All students are expected to complete these evaluations during a two week time window near the end of the semester. More information will be provided at a later date.

## MHCH 859 FALL 2016: Class Meetings & Assignments

Date	Topics & Objectives	Speaker	Assignments
August 23	<p><b>Topics:</b></p> <ul style="list-style-type: none"> <li>Course Introduction</li> <li>Funding Sources</li> </ul> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>Become familiar with resources to locate funding sources</li> </ul>	Jon Hussey	<p>If you have not already:</p> <ul style="list-style-type: none"> <li>Set up a PIVOT (COS) alert</li> <li>Complete your CITI human ethics training</li> </ul> <p>Review funding resources via UNC's funding portal  <a href="http://grantsinfo.unc.edu">http://grantsinfo.unc.edu</a></p> <p>Review the PHS 398 forms and NIH guidance materials:  <a href="http://grants.nih.gov/grants/funding/phs398/phs398.html">http://grants.nih.gov/grants/funding/phs398/phs398.html</a>.  <a href="http://grants.nih.gov/grants/writing_application.htm">http://grants.nih.gov/grants/writing_application.htm</a>  <a href="http://www.csr.nih.gov/CDG/CD%20Guidelines/r01.pdf">http://www.csr.nih.gov/CDG/CD%20Guidelines/r01.pdf</a></p> <p>Begin thinking about a topic area for your application</p>
August 25	<p><b>Topics:</b></p> <ul style="list-style-type: none"> <li>Introduction to NIH grant applications</li> <li>Grant writing overview</li> <li>What does it mean to "use"</li> </ul>	Jon Hussey	<p>Begin literature search</p> <p><b>Reading:</b>  <b>Yang:</b> Foreword; Preface 1 &amp; 2; Chapters 1-5  <b>Shonkoff</b> JP. Science, policy, and practice: Three cultures in search of a shared mission. <i>Child Development</i> 2000;71(1):181-187.  <b>Weiss</b> CH. Research for policy's sake: The enlightenment function of social research. <i>Policy</i></p>

	<p>research?</p> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>Describe the purpose &amp; content of NIH grant application sections</li> <li>Describe styles, strategies, and critical content of strong applications</li> <li>Describe key issues in translating research into practice and policy (i.e., helping to make the case for research significance)</li> </ul>		<p><i>Analysis</i> 1977;3:531-545.</p> <p><b>Also recommended:</b> Weed DL. Towards a philosophy of public health. <i>J Epidemiol Community Health</i>1999;53:99–104</p>
August 30	<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>Discuss preliminary ideas and questions for your proposal</li> </ul>	Jon Hussey	<p>Continue literature search</p> <p>Recommendations:</p> <ul style="list-style-type: none"> <li>Begin an endnote or refworks data base</li> <li>Begin a literature summary table to assist with literature critique</li> </ul>
September 1	<p><b>Topics:</b></p> <ul style="list-style-type: none"> <li>Meta-theories, theories, and conceptual models</li> <li>Moderators and mediators</li> </ul> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>Understand the differences</li> <li>Describe principles for developing a useful conceptual model.</li> </ul>	Jon Hussey	<p><b>Reading:</b> <b>Earp, JA and Ennett, ST.</b> Conceptual models for health education research and practice. <i>Health Education Research: Theory and Practice</i>, 1991, V6, N2: 163-171. <b>MacKinnon, Krull, &amp; Lockwood</b> (2000). Equivalence of the mediation, confounding, and suppression effect. <i>Prevention Science</i>, 1(4), 173 – 181. <b>DP MacKinnon &amp; AJ Fairchild</b>, 2009. Current Directions in Mediation Analysis. <i>Curr Dir Psychol Sci.</i> 2009 February 1; 18(1): 16. doi:10.1111/j.1467-8721.2009.01598.x.</p> <p><b>Also recommended:</b> US Department of Health and Human Services. National Cancer Institute.(2005). <i>Theory at a glance: A guide for health promotion practice.</i> [www document]: <a href="http://cancercontrol.cancer.gov/brp/theories_project/theory.pdf">http://cancercontrol.cancer.gov/brp/theories_project/theory.pdf</a></p> <p><b>Baron, R.M. &amp; Kenny, D.A.</b> (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. <i>Journal of Personality and Social Psychology</i>, 51, 1173-1182. <b>Holmbeck, G.N.</b> (1997). Toward Terminological,</p>

			Conceptual, and Statistical Clarity in the Study of Mediators and Moderators: Examples From the Child-Clinical and Pediatric Psychology Literatures. <i>Journal of Consulting and Clinical Psychology</i> , 65(4), 599-610.
September 6	<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>• Discuss what is known about your topic, literature gaps, and how your aims would fill those gaps</li> </ul>	Jon Hussey	<p>First draft of research aims</p> <p><b>Reading:</b> <b>Yang:</b> Chapters 6-10</p>
September 8	<p><b>Topic:</b> Writing</p> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>• Review techniques for enhancing writing productivity &amp; pleasure</li> </ul>	Jon Hussey	<p><b>Reading:</b> <b>Boice R.</b> "Ensuring Regular Productivity." Chapter 6 (pp. 75-92) in <i>Professors as Writers: A Self-Help Guide to Productive Writing</i>. Stillwater, OK: New Forums Press (1990).</p>
September 13	<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>• Discuss revised specific research aims &amp; how they will advance the literature</li> <li>•</li> </ul>	Jon Hussey	<p>First draft of full specific aims (i.e., 1 pg. introductory text and aims)</p>
September 15	<p><b>Ecological Framework</b></p> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>• Develop skills in theory selection and application</li> <li>• Understand strengths &amp; limitations of different theories</li> </ul>	Jon Hussey	<p><b>Readings:</b></p> <p>Massey DS and Brodmann S. <i>Spheres of Influence: The Social Ecology of Racial and Class Inequality</i>. NY: Russell Sage. 2014. [read "The Social Ecology of Human Development"; Chapter 1, pp. 1-12] [available on books.google.com]</p> <p>Massey DS. "Brave New World of Biosocial Science." <i>Criminology</i> 2015;53(1):127-131.</p> <p>Sallis JF and Owen N. "Ecological Models of Health Behavior" (Chapter 3) in Glanz, Rimer and Viswanath. 2015.</p>
September 20	<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>• Discuss revised aims, first draft of conceptual model, application "story line"</li> <li>• Understand the importance of an application's narrative</li> </ul>	Jon Hussey	
September 22	<p><b>Student-led Module #1:</b></p> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>• Develop skills in</li> </ul>		

	<p>theory selection and application</p> <ul style="list-style-type: none"> <li>• Understand strengths &amp; limitations of different theories</li> </ul>		
September 27	<p><b>Student-led Module #2</b></p> <p><b>Topics:</b></p> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>• Develop skills in theory selection and application</li> <li>• Understand strengths &amp; limitations of different theories</li> </ul>		
September 29	<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>• Continue discussion of aims, conceptual model, significance section</li> </ul>	Jon Hussey	Draft of specific aims and significance due for informal peer and instructor review
October 4	<p><b>Student-led Module #3</b></p> <p><b>Topics:</b></p> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>• Develop skills in theory selection and application</li> <li>• Understand strengths &amp; limitations of different theories</li> </ul>		<b>Readings:</b>
October 6	<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>• Continue discussion of aims, conceptual model, significance section</li> </ul>	Class	Informal review (notes due to applicants)
October 11	<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>• Discuss innovation and approach sections of application</li> </ul>	Jon Hussey	<b>Readings: Yang:</b> chapter 11-14
October 13	<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>• Discuss your analysis plan</li> </ul>	Jon Hussey	
October 18	<p><b>Topics:</b> Life Course Theory</p> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>• Understand theoretical propositions</li> </ul>	Jon Hussey	<p><b>Readings:</b> Slides</p> <p>Outline of Analysis Plan</p>

October 20	NO CLASS; FALL BREAK		
October 25	<p><b>Topics:</b></p> <ul style="list-style-type: none"> <li>Case Study: NIH R21</li> </ul> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>Review &amp; discuss a full NIH proposal package</li> </ul>		<p><b>Readings:</b> NIH R21</p> <p><b>Specific Aims and Significance sections of proposal due for grading</b></p>
October 27	<p><b>Topics:</b></p> <ul style="list-style-type: none"> <li>Review of Theories</li> </ul> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>Compare, Contrast, and Evaluate</li> </ul>		<p><b>Readings:</b> Review prior theory readings and handouts</p>
November 1	<p><b>Topics:</b></p> <ul style="list-style-type: none"> <li>Developing a grant budget</li> </ul> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>Describe basic principles of budget development and justification</li> <li></li> </ul>	TBD	<p>Deliver draft of innovation/approach sections to peer reviewer</p> <p>Readings: NIH Budget &amp; Budget Justification Template</p>
November 3	<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>Informal review of Innovation and Approach sections (not graded)</li> </ul>	class	Informal review (notes due to applicants)
November 8	<b>Topic: TBD</b>	TBD	<b>Readings:</b>
November 10	<p><b>Topics:</b></p> <ul style="list-style-type: none"> <li>Discussion of NIH formal peer review</li> <li>Remaining proposal development issues</li> </ul> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>Describe the criteria used to evaluate an NIH grant application;</li> <li>Describe the process followed in</li> </ul>	Jon Hussey	<p><b>Readings:</b> Yang Chapters 18-20</p> <p><b>Morse JM.</b> A Review Committee's Guide for Evaluating Qualitative Proposals, <i>Qual Health Res</i> 2003; 13; 833</p>

	<p>an NIH peer review session</p> <ul style="list-style-type: none"> <li>• Be able to critically and constructively review grants written by others</li> </ul>		
November 15	<p><b>Topics:</b></p> <ul style="list-style-type: none"> <li>• Writing the Analysis Section of an NIH proposal</li> </ul> <p><b>Objectives:</b> Describe key elements in preparing an analysis section for an NIH proposal</p>	TBD	
November 17	<b>Individual Consulting on Research Proposal</b>	403 Rosenau	
November 22	<b>Mixed Methods Designs</b>	TBD	<p><b>Innovation and Approach Sections due for grading (email submission for posting to Sakai)</b></p> <p><b>Full proposal due to peer reviewers (minus budget and human Ss sections)</b></p> <p><b>NOTE: Submission to peer reviewers by this date is required in order to receive a grade on the peer review assignment (please cc instructor)</b></p>
November 29	<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>• Formal NIH format peer review of proposals</li> </ul>	class	
December 1	<p><b>Topics:</b> TBD</p>		<p><b>Written review of your peer's proposal draft due for grading</b></p> <p><b>Readings:</b></p>
December 6	<p><b>Objectives</b></p> <ul style="list-style-type: none"> <li>• Discuss experiences with the class and suggested changes</li> </ul>	Class	<b>**Final complete proposal (including Budget and Human Ss) due for grading on 12/8</b>