

EPID/MHCH 853: Advanced Perinatal and Pediatric Epidemiology
2 Credit hours

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Office Hours by Appointment

Mailbox located in 2102, 2nd floor of McGavran-Greenberg in the Epidemiology wing.

TIME & PLACE: Mondays 12-1:30pm, 2304 McGavran-Greenberg

Objective:

This course focuses on methodological issues, including study design and analytic considerations, in the context of perinatal and pediatric research. The goal of the written assignment, presentation and classroom discussions are to improve students' ability to succinctly articulate scientific points of interest or concern which have been identified by leaders in the field as areas for future research opportunities. Addressing these research opportunities is required for success in the workforce whether it be in academics, government agencies, local public health agencies or industry. This course builds upon principles taught in the introductory epidemiology course and in our method courses, EPID 851, 710, and 715. Prior to beginning this class, students should have a clear understanding of the following epidemiologic concepts: study design, measures of effect, bias, confounding, stratification, and randomization.

Course Description and Structure

The class meets each Monday from 12:00-1:30 PM. The course will be a combination of a flipped classroom where students will be directing their growth for new knowledge and skills within the area of Reproductive, Perinatal and Pediatric Epidemiology (RPPE) and presentations by a few local RPPE epidemiologists that can help in the application of the knowledge and skills sought after. We will use four white papers published by NICHD to guide our selection of topics to be discussed and topics for the concept papers/presentation. To facilitate high-quality discussions, all assigned readings should be completed prior to class. **All readings will be available on Sakai or Pub Med. Participation in class discussions is a critical part of the course experience; thus, attendance is required. Your course grade will be reduced by 10% for 2 unexcused absences, 20% for 3 unexcused absences, and so on.**

Honor System

As part of the UNC Honor Code, Carolina students pledge to maintain ideals of academic honesty, personal integrity, and responsible citizenship. These ideals are embodied in the Honor Code set forth in the Instrument, with the support of students, faculty, and staff. When a student applies to Carolina, he undertakes a commitment to the principles embodied in the Honor Code. 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.

Online Course Evaluation

UNC uses an online evaluation system to assess the quality of instruction and learning of the courses offered. The system is open for a two week period beginning on April 16th and runs through reading day on April 30th. An e-mail will notify you that the system is open with a link to access the form. This evaluation system is anonymous. The instructor will only see the aggregate data with any comments at the end of the course after grades are turned in. It is your responsibility as a student to complete the evaluations. You will be sent multiple e-mails until it is completed.

Laptop Policy

I am pleased to have students take notes via laptops. However, it is expected that students who bring their laptops to class will use them for academic purposes and not for surfing the internet or other extracurricular activities not related to the class discussion. Please remember that engaging in such activities during class time is disruptive to fellow students who can see your screen. It is also unacceptable for any of our esteemed visiting guest lecturers to see such non-academic activities during class time. Full engagement in class activities is part of the class participation component of the grade.

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 program. This may challenge our own closely held ideas and personal comfort zones. The results, however, create a sense of community and promote excellence in the learning environment. Diversity includes consideration of (1) the variety of life experiences 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, social position. ***This class will follow principles of inclusion, respect, tolerance, and acceptance that support the values of diversity.***

Date	Topic	Lecturer
1/13	No Class-Students are to read the following 4 white papers for class on the 27 th . Be prepared to decide on discussion topics within each area to pursue during the course. Please send me your ideas for topic areas prior to 1/20. I can then see about finding faculty and/or local researchers who can come in a give a short presentation on those topics. https://www.nichd.nih.gov/vision/vision_themes/behavior/Documents/Behavior_White_Paper.pdf https://www.nichd.nih.gov/vision/vision_themes/reproduction/Documents/Reproduction_Vision_WP_030511.pdf https://www.nichd.nih.gov/vision/vision_themes/pregnancy/Documents/Vision_Pregnancy_WP_042811.pdf https://www.nichd.nih.gov/vision/vision_themes/developmental_origins/Documents/Vision_DevOrig_WP_04212011.pdf	AMSR at Dietary Guidelines Meeting at NIH
1/20	Holiday-no class	-----
1/27	Introduction: Finalize topics for class discussion and concept proposals	AMSR
2/3	Behavior Topic 1	
2/10	Behavior Topic 2	
2/17	Review of Concept Proposals	Students
2/24	Reproduction Topic 1	
3/3	Reproduction Topic 2	
3/10	Spring Break no class	
3/17	Review of Concept Proposals	Students
3/24	Pregnancy Topic 1	
3/31	Pregnancy Topic 2	
4/7	Review of Concept Proposals	Students
4/14	Developmental Origins Topic	
4/21	Review of Concept Proposals **Course evaluation**	Students
4/25	Semester ends	

ASSIGNMENTS	% OF GRADE
➤ Concept Papers and presentations (total of 3)	60% (20% each)
➤ Due on 2/17, 3/17, 4/7 and 4/21	
➤ Discussion Leader for a class topic	20%
➤ Class Participation	20%

GUIDELINES FOR BEING A DISCUSSION LEADER: Each student needs to sign up for a class topic based on the NIH Vision papers, create learning objectives and discussion questions that will achieve the objectives and pick readings for the class that will best prepare them to from the discussion questions. This will be done in consultation with the instructor and should be done at least 2 weeks in advance of the topic date.

GUIDELINES FOR CONCEPT PAPERS AND PRESENTATIONS: The purpose of this assignment is to develop and refine skills which will allow the students to critically evaluate epidemiological literature in the field of perinatal and pediatric epidemiology, design studies to fill in the gaps and then present the information in a clear and concise manner. **Each student will write 3 concept papers (there are 4 areas of focus so you will have a choice of to leave one out) and present each one in class.** Topics for the concept papers will be decided on the first day of class by the students and instructor but can be tweaked by the students as they dive into the literature.

The **Paper** should contain a concise summary (250-300 word **Structured Abstract**), a concise background review (max 1 page **Background**), a critical assessment of the relevant data (max 2 pages **Summary of Evidence**), description of what needs to be done next to push the science forward on this topic (max 1/2 page **Data Gaps**), an overview of your study design and methods (max 2 pages **Methods**). **The Paper in ONE WORD DOCUMENT (total of 6 pages) should be singled spaced, with 1 inch margins and either Arial 11 pt or Times Roman 12 pt font. Place your paper in the course's drop box of Sakai by 5pm on the Sunday before the topic is due. In fairness to those who meet the assignment deadlines, late papers will be penalized 10% per day unless unusual circumstances have been excused.**

Each student should read their fellow student's paper and be prepared to provide constructive suggestions for improvement during the class session devoted to presenting the research concept proposals. You will have 10 minutes for the presentation-you may prepare powerpoint slides but your time will be limited to 10 minutes.

Questions to consider when writing your paper:

Background: What is the prevalence of the exposure? Has the exposure or outcome changed over time? Is there international variability in exposure prevalence? How is one exposed? What is/are the outcome(s) & how is it defined? Is there a known biological

pathway linking exposure to outcome? Are there known susceptible populations? What is the basis for concern? What is the public health significance of the issue?

Summary of Evidence: Use the available literature (epidemiologic and/or basic science if relevant) to summarize the strength of the evidence. Consider study design (including temporal relation of exposure to outcome ascertainment), dose-response, residual/unmeasured confounding, magnitude of the association, plausibility of findings. Make mental note of data gaps or weaknesses in the studies to address in the next section.

Data Gaps: What has the existing literature *FAILED TO ADDRESS*? This is not intended to be a point by point critique of each study and paper. Try to summarize the overarching weaknesses of the existing studies—major threats to validity, major unresolved confounding, that might be addressable in future studies.

Methods: Based on your evaluation of the literature and research gaps identified, design a study that will take the science to the next level. Be sure to include the study design, setting, eligibility criteria, measurement of outcome(s) and covariates and the overarching statistical approach for data analysis.