



THE UNIVERSITY OF ARIZONA

Mel & Enid Zuckerman
College of Public Health

**Mel and Enid Zuckerman College of Public Health
University of Arizona**

EPID 630 Maternal and Child Health Epidemiology

Catalog Description: This course will cover methodologic issues in epidemiologic research on reproduction, childhood conditions, and women's health including topical information specific to conditions in each of these areas. The course will also cover National MCH databases and Surveillance Systems. The class will include classroom lectures, discussions and student presentations. (3 units)

Course Topics:

- Health Condition (Biology, Pathology)
- Magnitude
- Spatial and Temporal Aspects
- Exposures and Risk Factors
- Methodological Issues
- Data Analysis

Course Objectives: During this course, students will:

- Discuss methodological considerations for the conduct of epidemiologic research in areas of Maternal & Child Health.
- Gain general knowledge of the descriptive epidemiology of issues affecting women and children.
- Constructively evaluate research and scientific reports from the literature.
- Formulate a research question, analyze a dataset, and present analytic results in a table.

Learning Outcomes (Competencies Obtained): Upon completion of this course students will be able to:

1. Search, describe and summarize findings from the scientific literature to describe the epidemiology of a public health problem, identify health disparities and identify risk factors
2. Compare the relative strengths and weaknesses of epidemiological study designs
3. Identify the most appropriate design for specific research questions
4. Calculate appropriate measures of disease frequency and excess risk
5. Recognize and describe potential biases, confounding, and effect modification that can affect epidemiological studies and analyses
6. Interpret epidemiological analyses in the context of published literature and communicate key findings to various audiences
7. Integrate the anatomy/physiology, incidence/prevalence, risk factors/exposures, and spatial or temporal variations in risk of an MCH health issue to design and interpret epidemiological approach for a specific MCH research question
8. Analyze how potential biases, confounding, and effect modification that can affect the interpretation of MCH interventions
9. Select appropriate study design for assessing the association between a given exposure and an outcome, and then understanding advantages and limitations of these approaches.

10. Critique and synthesize appropriate literature and research findings to address a research question.
11. Identify potential sources of bias for various study designs and their effect on study quality
12. Conduct descriptive and analytic analyses, including strategies to assess confounding and effect modification methods, to make statistical inferences
13. Design appropriate studies using causal inference principles for testing hypotheses in specific populations, after evaluating specific design advantages and limitations
14. Evaluate the integrity, comparability, and limitations of data to make inferences related to analyses and results
15. Lead group interactions competently, ethically, respectfully and professionally to diverse audiences
16. Understand basic principles of educating professionals and the public on the fundamentals of epidemiological concepts
17. Demonstrate a working knowledge of the underlying principles of public health, population data collections, and analysis as well as the strengths, limitations, and utility of such data
18. Identify and address ethical issues in human subjects research
19. Demonstrate a working knowledge of: Basic statistics, epidemiology, and quantitative research
20. Use population data to assist in determining the needs of a population for the purposes of designing programs, formulating policy, and conducting research or training
21. Formulate a focused and important research question
22. Demonstrate the ability to critically analyze research
23. Share thoughts, ideas, and feelings effectively and with cultural and linguistic proficiency in discussions, meetings, and presentations with individuals and diverse groups
24. Write clearly, effectively, and with cultural and linguistic proficiency to express information about issues and services that affect MCH population groups
25. Listen attentively and actively
26. Tailor information for the intended audience(s), purpose, and context by using appropriate communication messaging
27. Demonstrate the ability to communicate clearly through effective presentations and written scholarship about MCH population, issues, and/or services