

COURSE SYLLABUS

PH 647: Analytic Approaches to Maternal and Child Health (3 units)

PREREQUISITE:

Consent of instructor

TIME and PLACE:

Tuesdays 4:00 p.m. -- 6:50 p.m. in Kuykendall Hall, Room 203

INSTRUCTOR:

Eric L. Hurwitz, DC, PhD
Associate Professor, Department of Public Health Sciences and Epidemiology
Biomedical Sciences Building, Room D104H

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OFFICE HOURS:

Tuesdays and Thursdays 2:00 -- 4:00 p.m. and by appointment, Biomed D104H

DESCRIPTION:

The purpose of this course is to assist the students to acquire familiarity with epidemiologic and analytic principles relevant to maternal and child health (MCH). Epidemiologic and other analytic methods are used to identify the major health problems facing women and children. Assisted by this information, responsible officials can develop appropriate interventions to promote health and prevent disease in this population.

This course will provide the students with the opportunity to acquire or strengthen competencies associated with the essential public health services including analytic skills, communication skills, and basic public health skills as they apply to the field of MCH.

FORMAT:

The course methodology includes faculty lectures, classroom exercises, student presentations and discussion. The approach to learning will be problem-based and students are requested to bring data sets from their own existing or planned projects. These data sets (and others) will be used as material for explanation, discussion and interpretation. As much as possible data sets will be selected in reference to health issues or services for the four population groups identified in Objective 1 below.

REQUIREMENTS:

1. Class attendance and participation in discussion. (Valid 10 points or 10% of course grade.)
2. Reading of assigned material.
3. Selection, reading and presentation of at least 3 articles relevant to the student project. (Valid 10 points or 10% of course grade.)
4. Data analysis project.
Students will work on individual projects focused on one of the four population groups identified in objective 1, chosen by each student. The project will involve statement of the problem to be addressed, data gathering, data quality assessment, descriptive data analysis, interpretation, and programmatic application.
5. Class presentation of project updates. (Valid 10 points or 10% of course grade.)
The project implementation will require repeated presentations of work completed at pre-established intervals.
6. Mid-term exam. (Valid 20 points or 20% of course grade.)
The mid-term exam will include a review of major MCH health issues and basic epidemiologic and analytic principles as they apply to MCH. This will take place by responding to questions and reading and interpreting tables.
7. Final presentation of the completed project. (Valid 25 points or 25% of course grade.)
The final presentation must include a problem statement for the chosen topic supported by literature review, description of the data and assessment of their quality, descriptive data analysis, and interpretation, application and relevance of the data analysis to program implementation.
8. Final paper on completed project. (Valid 25 points or 25% of course grade.)
The paper must include the presentation material: problem statement supported by literature review, description of the data and assessment of their quality, descriptive data analysis, interpretation, application and relevance of the data analysis to program implementation.

OBJECTIVES:

At the completion of the course the students will be able to:

1. Identify and describe major health issues in pregnancy, infancy, childhood and adolescence, and women's health.
2. Apply analytic and epidemiologic approaches to the examination of selected MCH issues.
3. Identify the most commonly used sources of data in MCH, and indicate their strengths and weaknesses.
4. Interpret the results of descriptive data analysis and indicate their relevance for health needs assessment, program planning and evaluation, and policy development in the field of MCH.

TEXTBOOKS:

1. Wilcox L. S., Marks J. S. (eds). *From Data to Action: CDC's Public Health Surveillance for Women, Infants, and Children*. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention; Atlanta, Georgia. 1995.

On the web at: <http://www.cdc.gov/nccdphp/drh/dattoact/index.htm>

2. Handler A., Rosenberg D., Kennelly J., Monahan C. *Analytic Methods in Maternal and Child Health*. U. S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau; Rockville, Maryland. 1998.

On the web at: <http://www.uic.edu/sph/dataskills/>

3. Alexander G.R., Nabukera S., Bader D., Slay-Wingate M. *Infant Mortality Assessment Manual*. University of Alabama at Birmingham School of Public Health, Department of Maternal and Child Health.

On the web at: <http://www.soph.uab.edu/mch-immr/>

ADDITIONAL READING MATERIAL:

Additional reading and exercise material will be distributed during the semester.

SCHEDULE AND CLASS TOPICS:

<u>Date</u>	<u>Topic</u>
August 22	Introduction: scope of course, course objectives and requirements, sources of data in MCH, discussion on project selection/focus of interest Discussion: Handler et al. Module 1: Descriptive epidemiology and statistical estimation
August 29	Literature web search, epidemiologic concepts relevant to MCH, first article presentation (overview) Discussion: Handler et al. Module 1: Descriptive epidemiology and statistical estimation (continued)
September 5	Relevance of sociodemographic factors to MCH, census issues for Hawaiian/Pacific Island populations; second article presentation (focus on problem statement); student project (chosen topic) Discussion: Handler et al. Module 1: Descriptive epidemiology and statistical estimation (continued)
September 12	Risk factors in maternal and infant health (The PRAMS project), selected results from the Hawaii PRAMS (Dental Care Initiation/Education during Pregnancy), student project (statement of the problem) Discussion: Handler et al. Module 2: Measures of association and hypothesis testing
September 19	Infant mortality and morbidity (definition, measurements, trends), third article presentation (focus on data), reading tables from presented article (relevance to MCH), student project (variables of interest) Discussion: Handler et al. Module 2: Measures of association and hypothesis testing (continued) DataSpeak event: Understanding disparities in perinatal health and birth outcomes: Emerging trends and perspectives [050806] DUE: Purpose of the project, statement of the problem, list of references
September 26	Low birth weight and preterm births, reading tables, student project (variables of interest and data set) Discussion: Handler et al. Module 2: Measures of association and hypothesis testing (continued) DataSpeak event: Understanding disparities in perinatal health and birth outcomes: New approaches for improving maternal and infant health [051706]

SCHEDULE AND CLASS TOPICS (continued):

<u>Date</u>	<u>Topic</u>
October 3	Prenatal care (concept and measurement), student project (data set and plans for descriptive data analysis) Discussion: Handler et al. Module 3: Analytic epidemiology and multivariable methods DUE: Methods, including (1) data source, data collection, survey instrument, variables of interest, and (2) data analysis plan [2-3 pages max]
October 10	Overview of child health, student project (discussion of data and plans for descriptive data analysis) Discussion: Handler et al. Module 3: Analytic epidemiology and multivariable methods (continued) DataSpeak event: New findings from the National Survey of Children's Health [021407]
October 17	Mid-term exam: Reading tables, discussing their relevance to MCH/PH Discussion: Handler et al. Module 3: Analytic epidemiology and multivariable methods (continued)
October 24	Child Death Review (CDR), reading tables, student project (presentation of preliminary descriptive analysis) Discussion: Handler et al. Module 4: Methods for summarizing data DataSpeak event: Child Death Review [022206] DUE: Revised methods
October 31	Developing a system of care for child well being, student project (continue discussion of preliminary analysis) Discussion: Handler et al. Module 4: Methods for summarizing data (continued) DUE: Preliminary findings
November 7	Student project (discussion of data analysis and preliminary findings), adolescent health (issues and programs in Hawaii) Discussion: Handler et al. Module 4: Methods for summarizing data (continued)
November 14	Reproductive health and related policies in Hawaii, student project (discuss relevance of findings to program planning and policy development) Discussion: Handler et al. Module 5: Methods for analyzing trend data DataSpeak event: Contextual analysis, Part 1: A tool for understanding disparities in preterm birth [051607]

SCHEDULE AND CLASS TOPICS (continued):

Date Topic

- November 21 Overview of women's health in Hawaii, student project (findings, interpretation, and relevance to community interests)
Discussion: Handler et al. Module 5: Methods for analyzing trend data (continued)
DataSpeak event: Contextual analysis, Part 2: Methods for understanding and interpreting multilevel analysis [060607]
- November 28 Student project presentations
Discussion: Handler et al. Module 6: Creating target population estimates using national survey data
DataSpeak event: Contextual analysis, Part 3: Applying the statistical concepts to real data [071107]
- December 5 Student project presentations, course evaluation
Discussion: Handler et al. Module 6: Creating target population estimates using national survey data (continued)

READING ASSIGNMENTS:

Required readings from the textbooks and from the current literature will be assigned and critiqued weekly.

PROJECT:

Each student will be responsible for completing an individual project (see Objective 1 and Requirement 4).

STUDENT EVALUATION:

1.	Class attendance and participation in discussion	10%
2.	Presentation of at least 3 articles relevant to student project	10%
3.	Class presentation of project updates	10%
4.	Mid-term exam	20%
5.	Final presentation of completed project	25%
6.	Final paper on completed project	25%

GRADING SCALE:

A+	=	97-100%
A	=	93-96%
A-	=	90-92%
B+	=	87-89%
B	=	83-86%
B-	=	80-82%
C+	=	77-79%
C	=	73-76%
C-	=	70-72%
D+	=	67-69%
D	=	63-66%
D-	=	60-62%
F	=	<60%

COMPETENCIES ADDRESSED:

By the end of this course, in line with the learning objectives and the course requirements, students will acquire or strengthen the following competencies:

Analytic Skills (AS)

- AS1 Define a public health problem.
 - AS2 Determine appropriate use of data and statistical methods.
 - AS3 Collect and summarize data relevant to an issue.
 - AS4 Evaluate the quality and comparability of data and identify gaps in data sources.
 - AS5 Describe how data illuminate ethical, political, scientific, economic, and overall public health issues.
 - AS6 Identify research designs used in public health, including advantages and flaws of specific designs, and determine designs appropriate to specific needs.
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- CO1 Communicate effectively with professional and lay audiences both in writing and orally.
 - CO2 Solicit inputs from individuals and organizations.

Cultural Skills (CS)

- CS1 Interact sensitively, effectively and professionally with persons from diverse cultural, socioeconomic and professional backgrounds.
- CS2 Identify the role of cultural, social, and behavioral factors in determining disease, disease prevention, health-promoting behavior, and medical service organizations and delivery.
- CS3 Develop and adapt approaches to problems that take into account cultural differences.

Basic Public Health Skills (PHS)

- PHS1 Define, assess, and describe the health status of populations, determinants of health and illness, factors contributing to health promotion and disease prevention and factors influencing the use of health services.
- PHS2 Apply the basic public health skills from behavioral and social sciences, biostatistics, epidemiology, and environmental health to design/evaluate programs/policies to improve health.
- PHS3 Demonstrate mastery of access and use of public health literature.
- PHS4 Use advanced computer skills as appropriate.