

EPIDEMIOLOGIC METHODS

EH532 FALL 2005

This course is designed to provide the basic principles and methods of conducting and interpreting epidemiologic studies. The application of these methods in the field of epidemiology will be illustrated through reading and discussion of published studies and through problem solving.

Course Objectives

- The student will understand the principles of descriptive epidemiology (OEHS EO 6.2.2).
- The student will understand the principles of infectious disease epidemiology (OEHS EO 6.2.2).
- The student will understand the principles of chronic disease epidemiology with particular focus on (OEHS EO 6.2.5)
 - study designs
 - measures of effect
 - alternative explanations for study results
 - effect modification
- The student will understand the principles of occupational epidemiology (OEHS EO 6.2.2 & 6.2.5).
- The student will understand the particular difficulties involved in environmental and cancer epidemiology (OEHS EO 6.2.2 & 6.2.5).
- The student will be able to use the principles and methods in practical settings (OEHS EO 6.2.6).

Course Notes / Textbook

- Bachand. Epidemiologic Methods Fall 2005. (Required)
- Rothman. Epidemiology: An introduction. Oxford University Press, 2002. (Optional)

Please always bring a calculator and the homework / in-class assignment booklet to class!

Evaluation

- Homework assignments (33%)
- Midterm exam (33%)
- Final exam (33%)

Letter grades: A = 90-100%, B = 80-89%, etc.

Office hours

By appointment.

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Date	Topics	Lecturer
<u>EPI CONCEPTS AND METHODS</u>		
Tue Aug 23	Introduction, Objectives, Understanding of disease Introduction to descriptive epidemiology: person, place and time; summarizing data	Bachand
Thu Aug 25	Descriptive epidemiology: examples	Reif
Tue Aug 30	Descriptive epidemiology: summarizing data	Bachand
Thu Sep 1	Obtaining mortality and morbidity data Measures of mortality and morbidity	Bachand
Tue Sep 6	Examples of descriptive epidemiology	Bachand
Thu Sep 8	Adjustment of rates	Bachand
Tue Sep 13	Examples	Bachand
Thu Sep 15	Screening for disease	Bachand
Tue Sep 20	Surveillance	Chase
Thu Sep 22	Infectious disease epidemiology	Bachand
Tue Sep 27	Infectious disease epidemiology: example	Bachand
Thu Sep 29	Infectious disease epidemiology: example	Bachand
<u>STUDY DESIGNS AND ANALYSIS</u>		
Tue Oct 4	Study designs: introduction	Bachand
Thu Oct 6	Study designs; review	Bachand
Tue Oct 11	MIDTERM EXAM	Bachand
Thu Oct 13	Odds ratio and relative risk; Exercise: Study designs	Bachand
Tue Oct 18	Exercise: Study designs	Bachand
Thu Oct 20	Alternative explanations of study results: Selection and information bias	Bachand
Tue Oct 25	Alternative explanations of study results: confounding	Bachand
Thu Oct 27	Summary odds ratios; Interaction/effect modification	Bachand
Tue Nov 1	Interaction/effect modification	Bachand
Thu Nov 3	Examples	Bachand

Tue Nov 8	Introduction to Epi Info; Statistical power <u>APPLICATIONS OF EPI METHODS</u>	Bachand
Thu Nov 10	Environmental epidemiology	Reif
Tue Nov 15	Cancer epidemiology	Reif
Thu Nov 17	Occupational epidemiology	Bachand
Nov 22,24	THANKSGIVING BREAK	
Tue Nov 29	Epidemiologic study example	Bachand
Thu Dec 1	Epidemiologic study example	Bachand
Tue Dec 6	Causality	Bachand
Thu Dec 8	Usefulness of epi research; review	Bachand