CTSC 5300
Introduction to Clinical Epidemiology

Faculty: Janet E. Olson, Ph.D. and Alexandra Wennberg, Ph.D.
Credits: 1
Quarters: Summer & Winter
Prerequisites: None

Overview
This course is the first in a series of three that comprise the introduction to clinical epidemiology. This first course presents an overview of epidemiology; the second provides an opportunity to design five studies of various designs; and the third concentrates on the application of these methods based on published epidemiologic studies. Thus, the three courses together equate to a typical 4-credit introductory epidemiology course.

As the first in this series, this course will present basic terminology and methodological concepts in epidemiology from a clinical perspective. Topics will include issues related to measurement (reliability, validity), testing (sensitivity, specificity), prevalence, incidence, causation, study design (ecologic studies, cohort studies, case-control studies, clinical trials, cross-sectional studies), bias and confounding.

Objectives
Upon completion of this course, the students are expected to be able to:

- Describe the differences between observational and experimental study designs.
- Recognize the differences between accuracy and precision and their implications in epidemiologic studies.
- Compare and contrast the basic epidemiologic study designs and their relative strengths and weaknesses.
- Explain the concepts of confounding and bias, and how they might influence inference in epidemiologic studies.
- Interpret the standard measurements used for evaluating diagnostic tests, discuss how these are applied in the population context, and how screening programs are evaluated.

Evaluation
The final grade will be determined by two tests and a comprehensive final exam.

Students should expect to spend approximately two to four hours of time per week on this 1-credit course. Additional online modules related to this topic are available on the Continuous Professional Development website.

For specific dates and times this course is provided, please see the quarterly detailed course schedule.