

Special Topic in Epidemiology

EPBI 592: INTRO TO DATA COLL METH
Introduction to Population-Based Data Collection Methods

Instructor: Elaine A. Borawski, Ph.D., and Erika S. Trapl, Ph.D.

Offered: Tuesday and Thursdays, 3:45-5:00 p.m. for five weeks. January 12-February 12

Prerequisite: No previous coursework required, although basic knowledge of research methods and study design is recommended. NOTE: Class size is limited - in order to accommodate EPBI students, non-EPBI students must get permission from instructors to enroll.

Required Texts: TBA

Description of course-series: This 5-week special topics course is part of a year-long series on population-based data collection methods. The series consists of six, one-credit hour courses offered consecutively, three offered each semester beginning in January of each year. A student taking all six courses will learn the steps of carrying out a survey-based study from the early stages of idea development through planning and carrying out data collection (including submission of an IRB application), managing and analyzing data and summarization of results (see below for list of all six courses). However, each course is designed to be independent, so each course may be taken independently.

Description of this course: In this first course of the series, we will set the stage for the entire process. Students will develop a research study that the class as a whole will carry out over the course of the year. All students will be required to complete and pass online CREC training (basic or refresher) applicable to population-based or behavioral research.

Week 1	Laying the groundwork; intro to the course wiki; components of a study; development of a research question; introduction to IRB application and CREC requirements; requirements of the class project.
Week 2	Introduce the research plan and its components-- ties to IRB (e.g., writing overall question with specific aims). Conceptual frameworks (IV/DV, latent vs. measureable constructs, causal pathways, confounders/control, interactions)
Week 3	Picking and refining a class project; finalizing the components of research plan; finalizing aims and conceptual model; exploration of appropriate measures.
Week 4	Development of the construct table - linking variables to constructs to hypotheses to questions; IRB lecture (e.g., exempt vs expedited vs. full review, forms and protocols, how to's)
Week 5	Ethical consideration in survey research; introduction to bias (selection); internal and external validity, completion of IRB application. Next steps (for course 2).

Course requirements: Regular class attendance and participation; passing CREC training; writing up assigned sections of IRB application; homework assignments

Competencies Covered:

- Developing and refining the research question
- Development/writing specific aims and hypotheses
- Understanding “measurement”—what to measure and how
- Linking variables/measures/constructs to research hypotheses
- Intro to latent constructs and multidimensional measurement
- Operationalization of constructs; Linking constructs to questions
- Developing a construct table
- Bias (recognizing and minimizing)
- Power calculations (sample size consideration)
- Intro to Sampling
- Ethical and IRB consideration in survey research
- Consent form development