

Epidemiology (EPI)

Courses

EPI 304 Methods in Epidemiology I 0,4 Credits

Epidemiology is the field of scientific inquiry concerned with questions about the determinants of disease in the population. This course covers fundamental concepts of epidemiological thinking including study design and analytical methods to address confounding, bias, and effect modification. Students will be introduced to measures of disease frequency and association, sources of bias and how to address them, and concepts in causal inference. Case studies will address health concerns from infectious disease outbreaks to population health surveillance and disease prevention.

EPI 305 Methods in Epidemiology II 0,4 Credits

To investigate complicated questions in epidemiology, this second course offers a deeper, expanded view of concepts and methods for observational epidemiological studies. Topics include detailed coverage of clinical trials, cohort studies, case-control study variants and analytical methods. Includes the use of multivariable models to adjust for confounding effects and to estimate interaction effects, and applications of machine learning. Deeper concepts in causal inference are examined through the use of directed acyclic graphs.

Prerequisites: EPI 304 and BSTA 101

EPI 306 Lifecourse Epidemiology 3 Credits

This course provides students a foundation for understanding the terminology and theoretical framework used in life course epidemiology and family health services research; biobehavioral pathways by which early life experiences impact health across the life course; data sources, study designs, and statistical approaches used in lifecourse epidemiology and family health services research; and implications for clinical and public health practice, policy, and health system development with an eye towards development of effective and sustainable life course interventions.

EPI 404 Methods in Epidemiology I 3 Credits

Epidemiology is the field of scientific inquiry concerned with questions about the determinants of disease in the population. This course covers fundamental concepts of epidemiological thinking including study design and analytical methods to address confounding, bias, and effect modification. Students will be introduced to measures of disease frequency and association, sources of bias and how to address them, and concepts in causal inference. Case studies will address health concerns from infectious disease outbreaks to population health surveillance and disease prevention.

EPI 450 Special Topics in Epidemiology 3 Credits

In this course, students will engage in an intensive exploration of the substantive and methodological concepts related to a specific Epidemiology content area. Examples may include Lifecourse Epidemiology, Molecular Epidemiology, and Infectious Disease Epidemiology.

Repeat Status: Course may be repeated.