Epidemiology (EPIDEM)

Courses

EPIDEM 199. Undergraduate Research in Epidemiology. 2-4 Units.
Provides disciplinary research participation. Original or existing research options provide undergraduates the opportunity for faculty/mentor interactions including access to appropriate facilities. Medical Epidemiology research areas: Cancer, Genetic/Molecular, Environmental, Occupational, Biostatistics, and Infectious Disease.
Repeatability: May be taken unlimited times as topics vary

EPIDEM 200A. Epidemiologic Methods I. 4 Units.
Introduces the scope of epidemiology, measures of disease occurrence and association in populations, public health surveillance, diagnostic testing and screening studies, and methods and best practices for collecting data.
Overlaps with PUBHLTH 206A.
Restrictions: Epidemiology majors only.

EPIDEM 200B. Epidemiologic Methods II. 4 Units.
Design, conduct, and critical evaluation of randomized and observational study designs.
Prerequisite: EPIDEM 200A with a minimum grade of B.
Overlaps with PUBHLTH 206B.

EPIDEM 200C. Epidemiologic Methods III. 4 Units.
Applies core epidemiologic concepts to the analysis, interpretation, and communication of epidemiologic data from different study designs.
Prerequisite: EPIDEM 200A with a minimum grade of B and EPIDEM 200B with a minimum grade of B.

EPIDEM 200D. Epidemiologic Methods IV. 4 Units.
Introduces different causal inference and scientific reasoning frameworks, with an emphasis on study design and analysis using causal diagrams to identify and minimize potential biases in research questions.
Prerequisite: EPIDEM 200A with a minimum grade of B and EPIDEM 200B with a minimum grade of B and EPIDEM 200C with a minimum grade of B.

EPIDEM 200E. Epidemiologic Methods V. 4 Units.
Introduces different approaches to formulating and appraising research questions accounting for study design and data analysis considerations with a focus on estimating causal effects from observational data.
Prerequisite: EPIDEM 200D with a minimum grade of B.

EPIDEM 201. Cancer Epidemiology. 4 Units.
Concentrates on understanding how epidemiology plays a role in the search for cancer etiology, prevention, control, and treatment; gives an overview of cancer research with an appreciation of the multidisciplinary nature of the field.
Prerequisite: EPIDEM 200A with a minimum grade of B- or PUBHLTH 206A with a minimum grade of B-.
Same as PUBHLTH 216

EPIDEM 202. Genetic Epidemiology. 4 Units.
Genetic epidemiologic research principles, covering diverse study designs and methods. Integrates literature examples, lectures, demonstrations, and software applications for varied study designs, ranging from unrelated individuals to large extended kindreds. Includes in-class discussions, group projects, and exercises for concept reinforcement.
Prerequisite: PUBHLTH 206A with a minimum grade of B-.

EPIDEM 204A. Biostatistics I: Introduction to Statistical Methods. 4 Units.
Introduction to the basic statistical techniques commonly used in public health research. Topics include descriptive statistics, basic probability, inferential statistics (estimation, confidence intervals, and hypothesis testing), and contingency tables. SAS software is introduced.
Same as PUBHLTH 204A
Restrictions: School of Population and Public Health students only.

EPIDEM 204B. Biostatistics II: Intermediate Statistical Methods. 4 Units.
Explores advanced statistical analysis methods for biological and medical applications. Topics include linear, logistic, and generalized linear regression models like Poisson regression.
Prerequisite: EPIDEM 204A with a minimum grade of B or PUBHLTH 204A with a minimum grade of B.
Same as PUBHLTH 204B
Restrictions: School of Population and Public Health students only.

EPIDEM 204C. Biostatistics III: Advanced Statistical Methods. 4 Units.
Intended for graduate students in epidemiology, public health, and related fields. Introduces statistical methods for analyzing survival and longitudinal/clustered data, and techniques to resolve missing data.
Prerequisite: EPIDEM 204B with a minimum grade of B or PUBHLTH 204B with a minimum grade of B.
Same as PUBHLTH 204C
Restrictions: School of Population and Public Health students only.

EPIDEM 204D. Biostatistics IV: Survival Analysis. 4 Units.
Advanced statistical analysis for epidemiologic studies, focusing on time-to-event data. Modern approaches, covering survival analysis, missing data, and statistical power analysis. SAS procedures PHREG, LIFEREG, and LIFETEST for intricate dataset analysis. Emphasis on model selection and proper interpretation.
Prerequisite: EPIDEM 204C with a minimum grade of B.

EPIDEM 205. Environmental Epidemiology. 4 Units.
Concentrates on epidemiological approaches to the assessment of community environmental hazards; issues involved in environmental exposure estimation; interdisciplinary approaches to environmental epidemiology, including the use of biomarkers of exposures and susceptibility; epidemiological studies within the context of risk assessment.
Prerequisite: EPIDEM 200 with a minimum grade of B- and EPIDEM 204 with a minimum grade of B-.

EPIDEM 207. Nutritional Epidemiology . 4 Units.
Human nutrition issues requiring epidemiologic principles and quantitative methods; historical and cultural dietary patterns; population dietary assessment; statistical approaches in nutrition research; public health and clinical topics including nutritional biochemistry and genomics, dietary guidelines, and food policy.
Prerequisite: (PUBHLTH 206A with a minimum grade of B- or EPIDEM 200A with a minimum grade of B-) and (EPIDEM 204A with a minimum grade of B- or PUBHLTH 204A with a minimum grade of B-).

EPIDEM 215. Introduction to Statistical Genetics. 4 Units.
Provides students with knowledge of the basic principles, concepts, and methods used in statistical genetic research. Topics include principles of population genetics, and statistical methods for family- and population-based studies.
Prerequisite: Two quarters of upper-division or graduate training in statistical methods.

EPIDEM 220A. Data Management I. 2 Units.
Learn SAS basics, Base SAS, DATA step essentials, and PROCs for data exploration and analysis. Topics include data reading, variable creation, sorting, merging, and common functions. Priority for MS/PhD Epidemiology, MPH Epidemiology/Biostatistics students concurrently enrolled.
Restrictions: School of Population and Public Health students only.

EPIDEM 220B. Data Management II. 2 Units.
Develop SAS proficiency in epidemiology/public health research. Goals include expanding SAS knowledge, enhancing self-sufficiency via online resources, and understanding program outcomes. Reinforce study design and data analysis basics while emphasizing SAS as a tool for data management.
Prerequisite: EPIDEM 220A with a minimum grade of B and EPIDEM 200A with a minimum grade of B and EPIDEM 204A with a minimum grade of B.
Restrictions: School of Population and Public Health students only.

EPIDEM 232. Cardiovascular Disease Epidemiology and Prevention. 4 Units.
Insights into the descriptive epidemiology of cardiovascular disease, the worldwide cardiovascular disease epidemic, pivotal epidemiologic studies, assessment techniques for cardiovascular risk, and prevention and management strategies.

EPIDEM 244. Toxic Chemicals in Environment. 4 Units.
Industrial ecology of toxicants and their impacts on environmental quality and human health. Explores theoretical basis of toxicity thresholds and regulatory issues. Uses classic and contemporary research articles to understand the legacy of traditional toxicants, and to identify emerging threats.

EPIDEM 264. Introduction to Environmental Health Science. 4 Units.
Explores environmental health's role in disease prevention. Studies human-environment interaction, focusing on chemical, physical, and biological agents in community and occupational settings. Covers climate change, environmental justice, children’s health, exposure assessment, and policy for public health improvement.
Same as EHS 264, PUBHLTH 264
Restrictions: School of Population and Public Health students only.

EPIDEM 269. Air Pollution, Climate, and Health. 4 Units.
Emission of air pollutants into the atmosphere, physical and meteorological processes that affect transport, and influence on global warming. Concepts of how and where people are most exposed, and how exposures and health effects differ in developed and developing regions.
Same as EHS 269, PUBHLTH 269

EPIDEM 275. Special Topics in Epidemiology. 1-4 Units.
Presents various topics and the latest research in the broad field of epidemiology.
Repeatability: May be taken unlimited times as topics vary

EPIDEM 280. Research Communication in Epidemiology. 3 Units.
Develop skills in literature review, critical appraisal of scientific research, and effective communications tailored specifically for the field of epidemiology. Communicate epidemiological concepts through various mediums, emphasizing both written and verbal communication.
Repeatability: May be taken unlimited times
Restrictions: Epidemiology majors and MPH - Epidemiology majors only.

EPIDEM 282. Epidemiology Department Seminar. 1 Unit.
A forum for the presentation of recent research to epidemiology students, faculty, and other interested parties. The atmosphere is informal, yet rigorous. Speakers range from graduate students through distinguished visitors from other institutions.
Grading Option: Satisfactory/Unsatisfactory only
Repeatability: May be taken unlimited times

EPIDEM 296. M.S. Thesis Research and Writing. 1-12 Units.
Individual research and study necessary for a graduate student to prepare and complete the thesis required for the Master of Science (M.S.) degree.
Prerequisite: Advancement to candidacy.
Repeatability: May be taken unlimited times

EPIDEM 297. PhD Degree Dissertation Research Writing. 1-12 Units.
Individual research and study necessary for a graduate student to prepare and complete the dissertation required for the Doctor of Philosophy (Ph.D.) degree.
Prerequisite: Advancement to candidacy.
Repeatability: May be taken unlimited times

EPIDEM 298. Directed Study in Epidemiology. 2-4 Units.
Directed study with Epidemiology faculty.
Repeatability: May be taken unlimited times

EPIDEM 299. Independent Study in Epidemiology. 2-8 Units.
Independent research with Epidemiology faculty.
Repeatability: May be taken unlimited times

EPIDEM 399. University Supervised Teaching. 2-4 Units.
Limited to students with active Teaching Assistant (T.A.) appointments.
Grading Option: Satisfactory/Unsatisfactory only
Repeatability: May be taken unlimited times