Department of Epidemiology
College of Human Medicine

200 A Multi-disciplinary Approach to Problems in Global Public Health and Epidemiology
Fall. 2(2-0) R: Open to undergraduate students in the Global Public Health and Epidemiology Specialization.
Overview of global health and the role of epidemiology in studying health problems from a multi-disciplinary perspective.

290 History of Scientific Reasoning and Critical Thinking in Global Public Health and Epidemiology
Spring, 2(2-0) P: EPI 200 R: Open to undergraduate students in the Global Public Health and Epidemiology Specialization.
Introduction to the historical development of public health and epidemiology and how social and scientific contexts shape scientific theories of disease distribution.

390 Disease in Society: Introduction to Epidemiology and Public Health
Spring. 4(4-0) Interdepartmental with Social Science. Administered by Epidemiology. Human epidemiology and population health issues facing contemporary society. Developed and less-developed settings. Health-related information in the mass media and scholarly publications.

490 Advanced Topics/Methods in Global Public Health and Epidemiology
Fall. 3(2-2) P: (EPI 390 and EPI 200) and (EPI 290) and (STT 220 or STT 201) R: Open to undergraduate students in the Global Public Health and Epidemiology Specialization.
Conceptual and analytical methods used in public health and epidemiology.

546 Information Management: Fundamentals of Epidemiology and Biostatistics
Spring. 1(1-0) R: Undergraduate mathematics and/or statistics. R: Open only to graduate-professional students in the College of Human Medicine.
Introduction to accessing, analyzing, and applying information to patients and to populations. Offered first ten weeks of the semester.

547 Information Management: Applications of Epidemiology and Biostats
Fall. 1(1-0) P: EPI 546 RB: Undergraduate mathematics and/or statistics, R: Open to students in the College of Human Medicine or approval of department.
Basic competency in accessing, analyzing, and applying information to patients and populations. Offered first half of semester.

805 Readings in the Historical Roots of Epidemiological Thought
Fall. 3(3-0) Interdepartmental with History. Administered by Epidemiology. P: EPI 810 or approval of department R: Open to graduate students in the Epidemiology major or approval of department.
Historical evolution of models of disease causation and population perspectives on disease.

808 Biostatistics I
Fall. 3(3-0) Interdepartmental with Statistics and Probability. Administered by Epidemiology. RB: College-level algebra. R: Open to masters students or doctoral students in the Epidemiology major or approval of department. SA: STT 425
Applications of probability and statistics in the applied health sciences. Probability distributions, estimation and tests for one-, two-, and paired samples, linear regression, correlation, and ANOVA. Use of statistical software. Critical appraisal of statistical methods in the biomedical literature.

809 Biostatistics II
Spring. 3(3-0) Interdepartmental with Statistics and Probability. Administered by Epidemiology. P: EPI 808 RB: MTH 103 or MTH 110 or MTH 116 R: Open to masters students or doctoral students in the Epidemiology major or approval of department. SA: STT 426
Analysis of categorical data in epidemiologic studies. Contingency tables and logistic regression.

810 Introductory Epidemiology
Fall. 2(2-0) R: Open to graduate students in the Department of Epidemiology or approval of department. SA: STT 426
Disease from a population perspective as the interaction of host, agent, and environment. Case definition, measuring frequency of disease, mortality and morbidity data, and major study designs. Offered first half of semester.

811 Epidemiology Exercises and Applications
Fall. 1(1-0) R: Open to graduate students in the Department of Epidemiology or approval of department. C: EPI 810 concurrently and EPI 808 concurrently.
Theoretical, conceptual, and methodological issues in epidemiological practice.

812 Causal Inference in Epidemiology
Fall. 3(3-0) RB: Open to graduate students in the Epidemiology major or approval of department. SA: STT 426
Causality in epidemiology. Application of theoretical concepts to the design, analysis, and assessment of epidemiologic research.

813 Investigation of Disease Outbreaks
Spring. 3 credits. P: EPI 810 and EPI 811 R: Open to graduate students in the Epidemiology major or approval of department. SA: HM 813
Principles of and practice in investigating disease outbreaks.

814 Nutritional Epidemiology
Spring of even years. 3(3-0) P: (EPI 810 and EPI 811) RB: LCS 829 SA: HM 814
Methodologies used in epidemiologic studies of diet and health in the context of U.S. and international dietary patterns. Relationship between diet and specific diseases.

815 Epidemiology of Cardiovascular Disease
Spring of even years. 3(3-0) R: EPI 810 and EPI 811 R: Open to graduate students in the Department of Epidemiology or approval of department. SA: HM 815

816 Perinatal Epidemiology
Fall. 3(3-0) RB: EPI 810 R: Open to graduate students in the Epidemiology major or approval of department. SA: HM 816
Epidemiology of adverse health states in pregnancy and the puerperium. Impact of these health states on subsequent child development.

817 Epidemiology of Communicable Diseases
Fall of even years. 3(3-0) RB: EPI 810 R: Open to graduate students in the Epidemiology major or approval of department. SA: HM 817
Application of principles of epidemiology to research in communicable diseases relevant to public health in the U.S. and other countries.

818 Epidemiology and Medical Geography
Spring. 3(3-0) Interdepartmental with Geography. Administered by Epidemiology. P: EPI 810 or GEO 435 R: Open to graduate students in the Department of Epidemiology or in the Department of Geography or approval of department. SA: HM 819
Concepts, techniques, and utilization of spatio-epidemiologic analyses for human health.

820 Evidence-Based Medicine
Spring of even years. 3(3-0) Interdepartmental with Medicine. Administered by Epidemiology. P: (EPI 810 and EPI 811) and (EPI 808 and EPI 809 or approval of department)
Methodology of clinical epidemiology and health services outcomes research. Linkage of epidemiology with daily clinical problems.

823 Cancer Epidemiology
Spring of odd years. 3(3-0) P: (EPI 810 and EPI 811) and (EPI 808 or approval of department) R: Open to graduate students in the Epidemiology major or approval of department. SA: HM 823

826 Research Methods in Epidemiology
Fall. 3(3-0) P: EPI 809 R: Open to graduate students in the Epidemiology major or approval of department. SA: HM 826
Analyses of epidemiologic and clinical data applying statistical methods, based on logistic and survival models, using standard software.

828 Seminar in Responsible Conduct of Research
Summer. 1(1-0) P: EPI 810 and EPI 811 SA: EPI 827
Ethical and regulatory issues in the responsible conduct of epidemiology research. Topics include informed consent; scientific misconduct; human subjects protection; responsible data management including electronic medical records, biological samples and genetic data; HIPAA compliance; and other current issues of scientific integrity.
Epidemiology—EPI

829 Design and Conduct of Epidemiological Studies and Clinical Trials
Spring. 3(2-2) Interdepartmental with Large Animal Clinical Sciences. Administered by Large Animal Clinical Sciences. P: (VM 533 or EPI 810 and EPI 811) and EPI 808. Applied analytical methods in experimental design. Assessment of health and disease status of animal and human populations. Risk assessment and interpretation of clinical trials.

830 Epidemiologic Overview of Foodborne Diseases and Food Safety
Fall. 3(3-0) Interdepartmental with Large Animal Clinical Sciences. Administered by Large Animal Clinical Sciences. R: Advanced undergraduate courses in biology, microbiology, biological sciences, biochemical sciences, food technology. R: Open to graduate students in the College of Veterinary Medicine or in the Food Safety Specialization or in the Food Safety major. Epidemiologic survey of important foodborne diseases addressing recent trends. Sources of surveillance data. Measurement and management of risk factors associated with major foodborne diseases. Tracking foodborne pathogens from farm to table. Introduction to Hazard Analysis Critical Control Points (HACCP).

831 Global Burden of Disease - Non-Communicable I
Fall. 1(2-0) P: EPI 810 or concurrently R: Open to students in the Epidemiology major or in the Global Public Health and Epidemiology Specialization or in the Health Communication major or approval of department. Cardiovascular disease, diabetes, breast cancer and neurological diseases. Epidemiology and public health aspects of non-communicable diseases. Data sources (State vital records), drug dependence, kidney disease, and psychiatric diseases. Offered first half of semester.

832 Global Burden of Disease - Communicable I
Fall. 1(2-0) P: EPI 810 or concurrently R: Open to students in the Epidemiology major or in the Global Public Health and Epidemiology Specialization or in the Health Communication major or approval of department. Tuberculosis, food-borne illnesses, anti-microbial resistance and avian influenza topics. Epidemiology and public health aspects of these communicable diseases. Outbreak investigations, rabies, SARS, zoonotic diseases and emerging diseases. Offered second half of semester.

833 Global Burden of Disease - Non-Communicable II
Spring. 1(2-0) P: EPI 810 or concurrently R: Open to students in the Epidemiology major or in the Global Public Health and Epidemiology Specialization or in the Health Communication major or approval of department. Asthma, colon cancer, psychiatric diseases and chronic obstructive pulmonary disease-related topics. Data sources (birth defects), drug dependence, psychiatric diseases and kidney disease. Offered first half of semester.

834 Global Burden of Disease - Communicable II
Spring. 1(2-0) P: EPI 810 or concurrently R: Open to students in the Epidemiology major or in the Global Public Health and Epidemiology Specialization or in the Health Communication major. Approval of department. HIV, influenza, West Nile, and vaccine-preventable diseases. Rabies, outbreak investigations, SARS, zoonotic diseases and emerging diseases. Offered second half of semester.

835 Neuroepidemiology
Summer of even years. 3(3-0) Interdepartmental with Neurology and Ophthalmology. Administered by Epidemiology. P: EPI 810 and EPI 811 R: Open to graduate students in the Epidemiology major or approval of department. Epidemiology of neurologic conditions and discussion of the inherent difficulty in studying these disorders. Offered half of semester.

847 Analysis of Survival Data

851 SAS Programming I: Essentials
Fall. 1(1-0) R: Open only to graduate students in the Epidemiology major or approval of department. A programming approach to plan and write simple SAS programs to solve common data management and data analysis problems. SAS programs to solve simple SAS programs to solve common data management and data analysis problems.

852 SAS Programming II: Data Management and Analysis
Spring. 1(1-0) P: EPI 851 R: Open only to graduate students in the Epidemiology major or approval of department. A programming approach to plan and write SAS programs to solve common data management and data analysis problems.

853 SAS Programming III: Research Data Analysis Using SAS
Spring. 1(1-0) P: EPI 852 R: Open only to graduate students in the Epidemiology major or approval of department. A programming approach to plan and write SAS programs to solve data management and data analysis problems in research settings.

890 Independent Study in Epidemiology
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Open to doctoral students in the Department of Epidemiology. Approval of department. Special projects, directed reading, and research arranged by an individual graduate student and a faculty member in areas supplementing regular course offerings.

909 Doctoral Dissertation Research
Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 99 credits in all enrollments for this course. R: Open only to doctoral students in the Epidemiology major. Doctoral dissertation research.