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| **REQUIRED CORE COURSES** |

**ANTH 897-078. Seminar in Selected Topics (3)**

Instructor: Amanda Thompson, PhD

Being offered Spring 2025

**This course fills the introductory integration course requirement.**

**SOCI 823. Integrating Social and Biological Perspectives on Human Health (3)**

Instructor: Bob Hummer, PhD

Last offered Spring 2018

Student will learn key theories and methodological approaches for how social processes, socio-spatial organization, and social inequality are associated with health patterns, changes, and disparities; theories/approaches for studying human health from a biological perspective; and strategies using integrated social and biological research perspectives and address advantages and challenges. **This course fills the introductory integration course requirement.**

**ANTH 898.** **Human Biology and Population Health (3)**

Instructor: Amanda Thompson, PhD

Last offered Spring 2020

This course explores the biological and behavioral characteristics of human populations from a biocultural and evolutionary perspective. We will examine the environmental and social factors that shape human biology and health from the cellular to the societal levels, from conception to old age, and across a range of comparative settings. Topics will include: epigenetics, nutrition and metabolism, growth and development, fertility and reproduction, immunology, cardiovascular health, and aging. Throughout the class, we will draw on classic studies and modern approaches from human biology, public health and medical anthropology to explore the multi-faceted determinants of human biology and health. **This course fills the advanced integration course requirement.**

**SOCI 826. Using Add Health to Study Health and Developmental Trajectories Across the Life Course (3)**

Instructor: Kathleen Mullan Harris, PhD

Last Offered Fall 2024

This course is designed to integrate the theory and research literature on health and developmental trajectories across the life course from early adolescence into adulthood based on the design and data from the National Longitudinal Study of Adolescent Health (Add Health). Within the broad life course framework focusing particularly on the transition to adulthood, this course will facilitate student research using Add Health (and other population-representative longitudinal datasets upon approval). Add Health was designed to study the causes of health and health behavior in adolescence and the transition to adulthood with special emphasis on the effects of the social contexts of young people’s lives. The study was designed by population researchers at the Carolina Population Center at UNC, and has been funded through the Demographic and Behavioral Science Branch of NICHD as three program projects from 1994-2013. The design evolved from theoretical notions of how the social and physical environment influence individual health and health behavior among adolescents and their outcomes in young adulthood. In addition to comprehensive demographic, social, behavioral, and biological data on individuals, independent measurement of contextual data on the family, siblings, the school, friends, the peer network, romantic and sexual partners, the neighborhood, the community, and state laws and policies have been collected for rich multilevel analyses of main and interactive environmental influences on health and health behavior. **This course fills the advanced integration course requirement.**

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| **COURSES IN THE SOCIAL AND BEHAVIORAL SCIENCES** |

**[Department of Anthropology](https://anthropology.unc.edu/)**

**ANTH 623. Human Disease Ecology (3)**

Instructor: Mark Sorenson

Last offered Spring 2024

This seminar considers cultural ecologies of disease by examining how social, cultural, and historical factors shape disease patterns. We examine how ecosystems are shaped by disease, how disease shapes ecosystems, and how cultural processes (e.g., population movements, transportation, economic shifts, landscape modifications, and built environments) contribute to emerging infectious disease.

**ANTH 676. Research Methods in Human Biology (3)**

Instructor: Mark Sorenson

Last offered Spring 2024

This course focuses on laboratory and field research methods in human biology. Through readings, in-class exercises, data collection outside of class, and laboratory analysis, students will examine issues of epistemology, ethics, data and biomarker collection methods, analysis and data processing. We will pay particular attention to issues of bias and validity, as well as precision and accuracy in human biology research.

**ANTH 750: Seminar in Medical Anthropology (3)**

Instructor: Jocelyn Chu

Last offered Spring 2024

Specially designed for, but not restricted to, students who are specializing in medical anthropology. Medicine as part of culture; medicine and social structure viewed crossculturally; medicine in the perspective of anthropological theory; research methods. A special purpose is to help students plan their own research projects, theses, and dissertations.

**ANTH 897-037. Environment, Population, and Wellbeing (3)**

Instructor: Paul Leslie, PhD

Being offered Spring 2025

Concern over the relationship between population and environment abounds, but the most salient research and discussion has focused on one aspect of the relationship --human impact on the environment. In this seminar, we will be concerned with the other side of the relationship as well -- how environmental characteristics (certainly the physical and biotic environments, but also the social/economic/political environments as they interact with the above) affect population characteristics and dynamics. These two "directional arrows" (population - environment, and environment - population) are of course ultimately inseparable. We will be concerned not only with how environmental characteristics affect human population dynamics (reproduction, family formation, movement, survival), but also with how responses to those environmental characteristics -- through mitigation or coping -- in turn affect the environment (biodiversity, land use and degradation, changes in infectious diseases, and more). That is, we will whenever possible take a systems view. A special emphasis will be on the biological and behavioral consequences of environmental fluctuations and unpredictability.

**Department of Economics**

**ECON 775. Applied Econometric Analysis (3)**

Instructor: David Guilkey

Last offered Spring 2022

This course covers concepts and methods used in economic research with an emphasis on empirical applications. Topics include the basic single equation regression model, multiple equation models, discrete and categorical dependent variables, instrumental variables and longitudinal data.

**Department of Geology**

**GEOG 541. Geographic Information Systems in Public Health (3)**

Instructor: Michael Emch

Last offered Fall 2024

Explores theory and application of geographic information systems (GIS) for public health. The course includes an overview of the principles of GIS in public health and practical experience in its use.

**GEOG 542. Neighborhoods and Health (3)**

Instructor: Michael Emch

Last offered Fall 2016

This course explores how neighborhood context influences the health of the populations living in them. It includes a survey of neighborhoods and health theory and empirical examples.

**Department of Public Policy**

**PLCY 895. Topics in Poverty and Human Resources (3)**

Instructor: Sudhanshu Handa

Last offered Unknown

This course covers topics in poverty, welfare and human resources from an economic perspective, and will be of interest to students who want to specialize in social and behavioral approaches to the study of population and demographic phenomena.

**Department of Sociology**

**SOCI 718. Longitudinal and Multilevel Data Analysis (3)**

Instructor: Guang Guo

Last offered Spring 2024

This course provides an introduction to event history analysis or survival analysis, random effects and fixed effects models for longitudinal data, multilevel models for linear and discrete multilevel data and growth curve models.

**SOCI 818. Race and Ethnicity (3)**

Instructor: Taylor Hargrove

Last Offered Fall 2024

This course reviews the historical and contemporary sociological literature on race and ethnicity. Students will gain an advanced state-of-the-art understanding of how racial and ethnic groups emerge and evolve, how these constructs shape societies, how they influence intergroup relations, and their role in identity formation.

**SOCI 820. Seminar in Marriage and the Family (3)**

Instructor: Lisa D. Pearce

Last offered Fall 2024

This graduate seminar will introduce students to a wide range of studies in the sociology of family, improving their ability to critically analyze work in this field and inspiring students' own family-related research. The course materials draw on a variety of theoretical, historical, cultural and methodological perspectives to examine topics such as union formation and dissolution, family relationships,

childbearing, parenthood, and intergenerational exchanges.

**SOCI 825. The Life Course and Aging: Theories and Methods in Social and Epidemiologic Research (3)**

Instructor: Claire Yang

Being offered Spring 2025

This seminar introduces guidelines for conducting aging and cohort analysis in social and epidemiologic research in which time and change are concerns. Uses three common research designs with an emphasis on new analytic models and methods.

**SOCI 830. Demography: Theory, Substance, Techniques, Part 1 (3)**

Instructor: Elizabeth Frankenberg; Barbara Entwisle

Last Offered Fall 2024

This is the first part of a two-course sequence that is designed as a basic graduate-level introduction to demography. This part of the course will cover basic concepts and tools, sources of demographic data, and the study of mortality and fertility. The second semester will cover stable population theory, migration, population distribution, population policy, and estimates and projections. Class-time will be devoted to both lecture and discussion, depending on the nature of the topic.

**SOCI 832: Migration and Population Distribution (3)**

Instructor: Barbara Entwisle

Last offered Fall 2023

Treats migration trends, patterns, and differentials and their effects on population distribution in continental and regional areas. Attention is given to theoretical and methodological problems in the study of population movement.

**SOCI 833. Socioeconomic Factors in Fertility (3)**

Instructor: Yong Cai

Last offered Spring 2023

Study of fertility differentials by social and economic factors, changes over time, the manner in which these factors affect fertility, and the implications thereof for fertility-control programs.

**SOCI 850. Social Stratification (3)**

Instructor: Ted Mouw

Last offered Fall 2023

Analysis of major theories of and approaches to the study of social inequality, with attention to how the various theories and approaches are operationalized. Focus on recent research in labor markets and worldwide inequality.

**SOCI 851. Sociology of Gender (3)**

Instructor: Kate Weisshaar

Last offered Spring 2022

The course covers major classical and current approaches to social stratification in sociology, with some special emphasis on evolutionary approaches, issues related to the evolution of social inequality with industrial development and globalization, and comparative social mobility.

**Department of Social Work**

**SOWO 843: Older Adults: Theory and Practice (3)**

Instructor: Denise Dews

Last offered Fall 2024

This course fosters understanding of normal aging, illness, and common challenges associated with aging, and also practices skills to treat older adults and their families.

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| **COURSES IN THE BIOLOGICAL/HEALTH SCIENCES** |

**BIOL 422: Microbiology (4)**

Instructor: Ann Matthysse

Last offered Fall 2024

Bacterial form, growth, physiology, genetics, and diversity. Bacterial interactions including symbiosis and pathogenesis (animal and plant). Use of bacteria in biotechnology. Brief introduction to viruses.

Requisites**:**Prerequisites, [BIOL 202](https://catalog.unc.edu/search/?P=BIOL%20202); or [BIOL 103](https://catalog.unc.edu/search/?P=BIOL%20103) and [BIOL 104](https://catalog.unc.edu/search/?P=BIOL%20104) and [BIOL 220](https://catalog.unc.edu/search/?P=BIOL%20220); or permission of the instructor for students lacking the prerequisite(s).

**BIOL 427. Human Diversity and Population Genetics (3)**

Instructor: Corbin Jones

Last offered Fall 2023

This course investigates the facts, methods, and theories behind human population genetics, evolution, and diversity. Specifically, it addresses questions of human origins, population structure, and genetic diversity.

Requisites:Prerequisites, [BIOL 201](https://catalog.unc.edu/search/?P=BIOL%20201) and [202](https://catalog.unc.edu/search/?P=BIOL%20202); or [BIOL 103](https://catalog.unc.edu/search/?P=BIOL%20103) and [104](https://catalog.unc.edu/search/?P=BIOL%20104); or permission of the instructor for students lacking the prerequisites.

**BIOL 449/MCRO 449. Introduction to Immunology (3)**

Instructor: Lorraine Cramer

Last offered Fall 2024

This course provides a general overview of the evolution, organization, and function of the immune system. Instruction will be inquiry-based with extensive use of informational and instructional technology tools.

Requisites:Prerequisites, [BIOL 205](https://catalog.unc.edu/search/?P=BIOL%20205); or [BIOL 103](https://catalog.unc.edu/search/?P=BIOL%20103), [BIOL 104](https://catalog.unc.edu/search/?P=BIOL%20104), and [BIOL 240](https://catalog.unc.edu/search/?P=BIOL%20240); or permission of the instructor for students lacking the prerequisites.

**BIOL/GNET 621. Principles of Genetic Analysis (3)**

Instructor: Jeff Selensky, Greg Copenhaver, Shawn Ahmed

Last offered Fall 2024

Intended to provide an intensive introduction to modern genetic analysis based on classical and contemporary paradigms, drawing on examples from a wide range of model organisms.

Requisites:Prerequisite, [BIOL 202](https://catalog.unc.edu/search/?P=BIOL%20202) or [BIOL 220](https://catalog.unc.edu/search/?P=BIOL%20220); or permission of the instructor for students lacking the prerequisite.

**Department of Epidemiology**

**EPID 710. Fundamentals of Epidemiology (3)**

Instructor: Suris-Swartz/Westreich

To be offered Spring 2025 (Remote only)

An intensive introduction to epidemiological concepts and methods from a perspective of causal inference. This course is for students intending to lead, engage in, collaborate in, or interpret the results of epidemiologic studies. Some familiarity with biomedical concepts may be needed. Three lecture hours a week.

Requisites:Corequisites, [BIOS 600](https://catalog.unc.edu/search/?P=BIOS%20600) or [662](https://catalog.unc.edu/search/?P=BIOS%20662) or [SPHG 712](https://catalog.unc.edu/search/?P=SPHG%20712) or equivalent [EPID 712](https://catalog.unc.edu/search/?P=EPID%20712) (EPID PhD students and EPID PhD minor students only).

**EPID 715. Theory and Quantitative Methods in Epidemiology (4)**

Instructor: Michele Jonsson-Funk

To be offered Spring 2025

Required preparation, competence in SAS. An in-depth treatment of basic concepts and skills in epidemiologic research, including problem conceptualization, study design, research conduct, data analysis, and interpretation. Four lecture hours per week.

Requisites:Prerequisites, [EPID 705](https://catalog.unc.edu/search/?P=EPID%20705), [EPID 710](https://catalog.unc.edu/search/?P=EPID%20710) or [711](https://catalog.unc.edu/search/?P=EPID%20711); Corequisite, BIOS 545; Permission of the instructor required for nonmajors.

**EPID 716. Epidemiologic Data Analysis (3)**

Instructor: Mollie Wood and Shabbar Ranapurwala; Womack and Wood (remote only)

To be offered Spring 2025

Required preparation, documented SAS proficiency. This course is a combined lecture/lab format where students get hands-on experience in the analysis and interpretation of data from cohort and case-control studies. Students may take the SAS exemption exam in lieu of taking [EPID 700](https://catalog.unc.edu/search/?P=EPID%20700), [EPID 795](https://catalog.unc.edu/search/?P=EPID%20795) or [BIOS 511](https://catalog.unc.edu/search/?P=BIOS%20511).

Requisites:Prerequisites, [EPID 710](https://catalog.unc.edu/search/?P=EPID%20710) or [EPID 711](https://catalog.unc.edu/search/?P=EPID%20711); and [EPID 700](https://catalog.unc.edu/search/?P=EPID%20700) or [EPID 795](https://catalog.unc.edu/search/?P=EPID%20795) or [BIOS 511](https://catalog.unc.edu/search/?P=BIOS%20511).

**EPID 735. Cardiovascular Disease Epidemiology (3)**

Instructor: Wayne Rosamond

Last Offered Fall 2024

Review of cardiovascular health and disease in populations and their population determinants. Topics include epidemiologic methods, risk factors, strategies for prevention, and a student research project. Three lecture hours per week.

**EPID 742. Biomarkers in Population-Based Research (2)**

Instructor: Stephanie Engel

Last offered Spring 2019

This course surveys the major issues relevant to the application of biomarkers in epidemiological research, including the logistical hurdles in biospecimen collection and storage, assessments of biomarker quality, analytic issues, and the interpretation of quantitative estimates.

**EPID 743. Genetic Epidemiology: Methods and Applications**

Instructor: Kari North

Last offered Fall 2024

Concepts and methods of genetic epidemiology relevant to study of complex human diseases, including segregation analysis, linkage analysis, and gene-environment interaction. Includes whole genome approaches, as well as non-human systems.

Requisites:Prerequisites, BIOS 545 and [EPID 715](https://catalog.unc.edu/search/?P=EPID%20715); permission of the instructor for students lacking the prerequisites.

**EPID 754: Advanced Methods in Infectious Disease Epidemiology (3)**

Instructor: Unknown

Last Offered: Unknown

This course covers theories, concepts, study designs, and analytical methods of particular importance in studying infectious outcomes. Teaching methods include lectures, hands-on computer practicals, article discussions, and written assignments.

Requisites: Prerequisites, EPID 715 and 716.

**EPID 755. Introduction to Infectious Disease Epidemiology (3)**

Instructor: Kim Powers

To be offered Spring 2025

Permission required for non-majors. This course will cover concepts, theory, study designs, and analytical methods of particular importance in infectious disease epidemiology. Most topics will be introduced with a didactic lecture and readings, followed by an in-class exercise, discussion, or computer practical applying relevant theories, concepts, and methods to specific questions in infectious disease epidemiology.

**EPID 757. Problem Solving Seminar in Advanced Infectious Disease Epidemiology. (3)**

Instructors: DiPrete\Lessler\Levintow

To be offered Spring 2025

In this seminar, we will explore how a combination of the biological understanding of disease processes and advanced methods in infectious disease analytics are essential to understanding critical problems in infectious disease, including the interpretation of surveillance data, the design of control measures and projecting the course of epidemics. We will take a ''problem based'' approach to learning about these issues, with a focus on a rotating set of disease systems. Restricted to Epidemiology PhD students, though others may be admitted with permission of the instructors.

Requisites: Prerequisites, EPID 751, [755](https://catalog.unc.edu/search/?P=EPID%20755), and [799A](https://catalog.unc.edu/search/?P=EPID%20799A)**.**

**EPID 785. Environmental Epidemiology (3)**

Instructor: Lawrence Engel

Last offered Spring 2024

Epidemiologic ideas and methods applied to evaluation and control of human health consequences of environmental hazards. Pollution of environmental media and global change are considered from a human-ecological perspective, with local and international examples. Three lecture hours per week.

Requisites:Prerequisites, [EPID 710](https://catalog.unc.edu/search/?P=EPID%20710) and [BIOS 600](https://catalog.unc.edu/search/?P=BIOS%20600).

**EPID 826. Introduction to Social Epidemiology (2)**

Instructor: Joanna “Asia” Maselko

To be offered Spring 2025

This course provides an overview of key concepts, methods and findings in research on social determinants of population health. Classes will consist of a didactic presentation followed by in-class group work modules and large group summary discussion.

Requisites:Pre- or corequisite, [EPID 600](https://catalog.unc.edu/search/?P=EPID%20600).

**EPID 827. Social Epidemiology: Analysis and Interpretation (2)**

Instructor: TBD

Last offered Spring 2020

Approaches to social epidemiologic research, with a focus on study design and interpretation of analytic techniques common in social epidemiology. Topics include causal inference for socially patterned exposures, racial equity research, and place effects on health.

Requisites:Prerequisite, [EPID 710](https://catalog.unc.edu/search/?P=EPID%20710); corequisite, [EPID 715](https://catalog.unc.edu/search/?P=EPID%20715) or [716](https://catalog.unc.edu/search/?P=EPID%20716).

**EPID/MHCH 851: Reproductive and Perinatal Epidemiology (3)**

Instructor: Varied

Last offered Fall 2024

Epidemiology of reproductive and perinatal health outcomes, including infertility, fetal loss, preterm birth, birthweight, congenital malformations, and infant mortality. Includes current knowledge regarding epidemiology of these outcomes and discussion of methodologic issues. Three lecture hours per week.

Requisites:Prerequisite, [EPID 600](https://catalog.unc.edu/search/?P=EPID%20600) or [EPID 710](https://catalog.unc.edu/search/?P=EPID%20710) or [EPID 711](https://catalog.unc.edu/search/?P=EPID%20711) or [SPHG 712](https://catalog.unc.edu/search/?P=SPHG%20712).

**EPID 889: Topics in Epidemiology Seminar (1)**

Instructor: Graff/Highland

To be offered Spring 2025 (Remote only)

EPID majors only. Topics are chosen to reflect emerging issues in the field, as well as those that meet the interests of the students and faculty in the department.

**Department of Sociology**

**SOCI 950. Society, Population, and Genomics (1)**

Instructor: Guang Guo

Last offered: Unknown

Topics include an introduction to biometrics (inferring genetic influences using genetically related individuals); an introduction to basic principles of molecular genetics; joint influences of social contexts and genetic heritage to human behaviors; history of human evolution and contemporary race/ethnicity; evolutionary psychology; sex, gender, and genetics; ethical, legal, and social issues in genetic studies; genetic testing; and epigenetics - the potential links between genes and environment.

**Department of Nutrition**

**MHCH/NUTR 611. Food and Your Life Stages (3)**

Instructor: Amanda Holliday, Heather Wasser, Kimberly Nezami

Last offered Fall 2024

This course covers nutrition during the life cycle. Units include women during preconception, pregnancy, and lactation; infancy; childhood; adolescence; and older adults (65+). Nutrient and energy needs, assessment of nutritional status, and cultural and socioeconomic barriers are discussed for each phase.

**NUTR 812: Introduction to Obesity: From Cell to Society (3)**

Instructor: TBD

Last offered Spring 2020

Provides a broad survey of obesity research including measurement issues, biological, social and economic etiologies, health and economic consequences, and prevention and treatment of obesity.