

AREA OF INTEREST - APPROVED ELECTIVES
Graduate Group in Epidemiology

The area of interest minimum requirements for students in the Graduate Group in Epidemiology are as follows:

- MS Plan 1 (thesis option): 9 units in an Area of Interest
- MS Plan 2 (exam option): 12 units of electives, which include 9 units in one Area of Interest
- PhD: 12 units of electives, which include 9 units in one Area of Interest.

We allow students to apply up to 3 units of **methodologically-oriented courses from the Epidemiologic Methods and Biostatistics Area of Interest** towards the minimum 9 units Area of Interest requirement, so a minimum of 6 units in **Area of Interest subject-matter courses** are required. Courses at UC Davis are sometimes dropped, and new courses are added, so if you believe an unlisted course should be added (or a listed one removed because it is no longer offered) please bring this to the attention of your graduate advisor. Students may form their own area of interest in collaboration with their Advisor and Major Professor, or by revising a current area listed below.

“Group Study” courses that are numbered 298 cannot, in general, be applied toward elective unit requirements. However, an exception can be made by a graduate adviser if the course’s Instructor of Record has submitted the course to the campus for formal graduate course–level approval in the numbered 200 series. If the Graduate Group in Epidemiology’s Educational Policy Committee approves the course, then an exception can be granted by a student’s graduate adviser prior to formal course approval by the UC Davis Committee on Courses and Instruction. The Areas of Interest are:

1. Epidemiologic Methods and Biostatistics
2. Health Services and Health Economics
3. Infectious Disease Epidemiology
4. Nutritional Epidemiology
5. Occupational and Environmental Epidemiology
6. Reproductive, Perinatal, Developmental and Pediatric Epidemiology
7. Social and Behavioral Epidemiology
8. Wildlife Epidemiology
9. Zoonotic and Vector borne Disease Epidemiology
10. Cancer Epidemiology

*ELECTIVE COURSE INFORMATION IS PULLED DIRECTLY FROM THE
UNIVERSITY COURSE CATALOGUE. PLEASE CONFIRM ANY COURSES WITH
THEIR RESPECTIVE DEPARTMENTS FOR QUARTER AND OFFERING
ACCURACY.

Prefix Guide

ARE Agricultural & Resource Economics
BST Graduate Group in Biostatistics
CLH Clinical Research
CMN Communication
ECN Economics
ECI Engineering: Civil and Environmental
EDU Education
ENT Entomology
EPI Epidemiology
ETX Environmental Toxicology
HDE Human Development
MHI Health Informatics
MPM Preventive Veterinary Medicine
MIC Microbiology
MMI Medical Microbiology & Immunology
NPB Neurobiology, Physiology, and Behavior
NRS Nursing
NUT Nutrition
PHR Population Health & Reproduction
PSY Psychology
PTX Pharmacology and Toxicology
STA Statistics
VME Veterinary Medicine & Epidemiology
WFC Wildlife, Fisheries, & Conservation Biology

***Course offerings are subject to change without notice**

1. Epidemiologic Methods and Biostatistics

| | | |
|---------------------|--|--------------------|
| BST/STA225 | Clinical trials (4) | SPRING |
| EPI 209 | History of Epidemiology in Public Health (2) (proposed) | Variable* |
| EPI223 | Spatial epidemiology (3) | SPRING Alt year |
| EPI224 | Human and ecologic risk analysis (3) | SPRING Alt year |
| EPI 225 | Advanced topics in epidemiologic methodology (2) | SPRING |
| EPI 226 | Methods for Longitudinal and Repeated Measurement Data | SPRING |
| EPI230 | Introduction to molecular epidemiology (3) | SPRING Alt year |
| MHI 209 | Decision Acquisition and Analysis (4) | SPRING |
| MHI 210 | Introduction to Health Informatics (4) | WINTER |
| MHI 289F | Database and Knowledge Management (4) | WINTER |
| MPM 212 | Concepts & Methods in Infectious Disease Surveillance & Control(3) | WINTER |
| PHR/SPH266 | Applied analytic epidemiology (3) | SPRING |
| SPH 298 Research | Advanced Concepts & Practical Applications in Epidemiologic | SPRING |
| STA135 | Multivariate data analysis (4) | FALL |
| STA137 | Applied time series analysis (4) | WINTER |
| STA138 | Analysis of categorical data (4) | WINTER |
| STA141A | Fundamentals of Statistical Data Science (4) | SPRING |
| STA141B | Data & Web Technologies for Data Analysis (4) | FALL |
| STA141C | Big Data & High Performance Statistical Computing (4) | FALL |
| STA145 | Bayesian statistical inference (4) | FALL |
| STA205 | Statistical methods for research in SAS (4) | FALL |
| PHR/EPI277 | Mathematical models in epidemiology (3) | SPRING |
| VME 217 | Evaluation and application of diagnostic tests (2) | SPRING Alt year |

*Check with department. Courses offered on a variable schedule- priority registration given to students within that major.

2. Health Services and Health Economics

Area-specific courses (minimum 6 units ECN 100 and ARE 100A may not count toward the unit requirement):

| | | |
|-------------|--|--------|
| ARE100A | Intermediate microeconomics: Theory of production and consumption (4) | WINTER |
| ARE100B | Intermediate microeconomics: Imperfect competition, markets, and welfare economics (4) | SUMMER |
| ARE130 | Agricultural markets (4) | WINTER |
| ARE147 | Resource and environmental policy analysis (3) | SPRING |
| ARE176 | Environmental economics (4) | FALL |
| ARE/ECN204 | Microeconomic analysis (4) | FALL |
| ARE/ECN215A | Microdevelopment theory and methods I (4) | FALL |
| ARE/ECN215C | Microdevelopment theory and methods II (4) | FALL |
| ARE/ECN240A | Econometric methods (4) | FALL |
| ARE/ECN240B | Econometric methods (4) | SPRING |
| ARE252 | Optimization with Economic Applications (4) | WINTER |
| CLH 210 | Principles and Methods of Comparative Effectiveness Research (4) | WINTER |
| ECN100A | Intermediate micro theory: Consumer & Producer Theory (4) | WINTER |
| ECN100B | Intermed micro theory: Imperfect Competition & Market Failure | FALL |
| ECN102 | Analysis of economic data (4) | WINTER |
| ECN103 | Economics of uncertainty and information (4) | WINTER |
| ECN132 | Health economics (4) | WINTER |
| ECN140 | Econometrics (4) | FALL |
| ECN151A | Economics of the labor market (4) | WINTER |
| ECN151B | Economics of human resources (4) | WINTER |
| ECN250A | Labor economics (4) | WINTER |
| ECN250B | Labor economics (4) | WINTER |
| EPI291 | Seminars in human health services research and clinical epidemiology (1 unit maximum) | F/W/S |
| SPH246 | Biostatistics for Clinical Research (4) | WINTER |
| SPH273 | Health services administration (3) | SUMMER |
| SPH274 | Economic Evaluation in Health Care (3) | FALL |

3. Infectious Disease Epidemiology

Area-specific courses (minimum 6 units courses require special approval; ECL220 cannot be applied toward unit requirement):

| | | |
|------------|--|-----------------------------|
| ABT182 | Environmental analysis using GIS (4) | WINTER |
| ENT153 | Medical entomology (3) | WINTER |
| ENT156 | Biology of parasitism (3) | SPRING |
| ENT253 | Advanced medical entomology (3) | FALL |
| EVE100 | Introduction to evolution (4) | WINTER |
| EVE101 | Introduction to ecology (4) | WINTER |
| SPH204 | Globalization and Health: Evidence & Policies (3) | FALL |
| EPI230 | Introduction to molecular epidemiology (3) | SPRING Alt year |
| EPI231 | Infectious disease epidemiology (3) | Not offered 2020/2021 |
| EPI/PHR277 | Mathematical models in epidemiology (3) | SPRING |
| MIC162 | General virology (4) | WINTER |
| MIC215 | Recombinant DNA (3) | FALL |
| MMI200D | Mechanisms of microbial interactions with hosts (3) | WINTER |
| MMI215 | Medical parasitology (3) | SPRING |
| MMI280 | Endogenous Microbiota in Health & Disease (3) | SPRING |
| MPM201 | Emerging Issues at Interface of Animal, Human & Ecosystem Health (2.5) | FALL |
| MPM 207 | Applied Epidemiologic Problem Solving (1) | FALL |
| MPM 212 | Concepts & Methods in Infectious Disease: Surveillance & Control(3) | FALL |
| PMI126 | Fundamentals of immunology (3) | FALL |
| PMI126L | Immunology laboratory (2) | WINTER |
| PMI128 | Biology of animal viruses (3) | FALL |
| PMI270 | Advanced immunology (3) | SUMMER |
| VME 158 | Infectious Disease in Ecology and Conservation (3) | WINTER |
| VME 258 | Infectious Disease in Ecology and Conservation (1) | WINTER |

4. Nutritional epidemiology

Area-specific courses (minimum 6 units; NUT 111-112 may not count toward the unit requirement):

| | | |
|----------|--|--------|
| FST211 | Lipids: chemistry and nutrition (3) | WINTER |
| NUT111AY | Introduction to nutrition and metabolism (3) | FALL |
| NUT111B | Recommendations and standards for human nutrition (2) | FALL |
| NUT112 | Nutritional assess: Dietary, anthropometric, & clinical measures (4) | SPRING |
| NUT219A | International nutrition (3) | SPRING |
| NUT219B | International Nutrition (3) | FALL |
| NUT252 | Nutrition and development (3) | SPRING |
| NUT258 | Field research methods in international nutrition (3) | WINTER |

5. Occupational and Environmental Epidemiology

Area-specific courses (minimum 6 units):

| | | |
|----------|--|--------|
| EBS 228 | Occupational and Musculoskeletal Disorders (3) | SPRING |
| ECI149 | Air Pollution (4) | WINTER |
| EPI251 | Environmental epidemiology (3) | WINTER |
| EPI260 | Epidemiology of chronic diseases and aging (3) | WINTER |
| EPI272 | Cancer epidemiology (2) | WINTER |
| SPH222 | Social and behavioral aspects of public health (3) | WINTER |
| SPH255 | Human reproductive epidemiology (3) | SPRING |
| SPH262 | Principles of environmental health sciences (3) | SUMMER |
| ETX101 | Principles of environmental toxicology (4) | FALL |
| ETX102A | Environmental fate of toxicants (4) | FALL |
| ETX102B | Quantitative analysis of environmental toxicants (5) | SPRING |
| ETX103A | Biological effects of toxicants (4) | WINTER |
| ETX103B | Biological effects of toxicants: Experimental approaches (5) | SPRING |
| ETX214 | Mechanisms of toxic action (3) | SPRING |
| ETX128 | Food toxicology (3) | WINTER |
| ETX131 | Environmental toxicology of air pollutants (3) | FALL |
| ETX135 | Health risk assessment of toxicants (3) | WINTER |
| ETX138 | Legal aspects of environmental toxicology (3) | FALL |
| ETX146 | Exposure and dose assessment (3) | WINTER |
| ETX203 | Environmental toxicants (4) | WINTER |
| ETX270 | Toxicology of pesticides (3) | WINTER |
| NPB121 | Physiology of reproduction (4) | SPRING |
| NPB121/L | Physiology of reproduction laboratory (1) | SPRING |
| PTX201 | Principles of pharmacology and toxicology I (5) | FALL |
| PTX202 | Principles of pharmacology and toxicology II (4) | WINTER |
| PTX203 | Principles of pharmacology and toxicology III (4) | SPRING |
| PTX230 | Advanced topics in pharmacology and toxicology (3) | WINTER |

6. Reproductive, Perinatal, Developmental and Pediatric Epidemiology

Area-specific courses (minimum 6 units; ECN 100 and ARE 100A may not count toward the unit requirement):

| | | |
|------------|---|--------------------|
| ANS123 | Animal Growth and Development (4) | FALL |
| ANS124 | Lactation (4) | FALL |
| ANS131 | Reproduction and Early Development in Aquatic Animals (4) | WINTER |
| AVS103 | Avian Development and Genomics (3) | FALL |
| AVS121 | Avian Reproduction (2) | FALL |
| EDU210 | Psychological Perspectives on School Learning (4) | FALL |
| EPI230 | Introduction to molecular epidemiology (3) | SPRING alt year |
| EPI251 | Environmental Epidemiology (3) | WINTER |
| SPH255 | Human Reproductive Epidemiology (3) | SPRING |
| ETX250 | Reproductive Toxicology (3) | WINTER |
| HDE200A | Early Development (4) | FALL |
| HDE200B | Middle Childhood and Adolescence (4) | FALL |
| HDE220 | Research Methods in Human Growth and Development (4) | WINTER |
| MCP222 | Mammalian Gametogenesis and Fertilization (3) | FALL |
| NPB 121 | Physiology of Reproduction (4) | SPRING |
| NPB121/L | Physiology of Reproduction Laboratory (1) | SPRING |
| NPB122 | Developmental Endocrinology (3) | SPRING |
| NUT 219A/B | International Nutrition (3-6) | SPRING/FALL |
| NUT252 | Nutrition and Development (3) | SPRING |

7. Social and Behavioral Epidemiology

Area-specific courses (minimum 6 units):

| | | |
|--------|--|----------------|
| CMN222 | Risk Communication (4) | FALL |
| CMN232 | Health Communication (4) | FALL |
| CMN243 | Media and Health (4) | FALL |
| CRD172 | Social Inequality: Issues and Innovations (4) | FALL |
| CRD240 | Community Development Theory (4) | WINTER |
| CRD247 | Transformation of Work (4) | FALL |
| EPI231 | Infectious Disease Epidemiology (3) | Not Offered |
| EPI252 | Social Epidemiology (2) | SPRING |
| EPI260 | Epidemiology of Chronic Diseases and Aging (3) | WINTER |
| SOC254 | Sociology of Health & Illness (4) | WINTER |
| SPH222 | Social and Behavioral Aspects of Public Health (3) | WINTER |

8. Wildlife Epidemiology

Area-specific courses (minimum 6 units; EVE 100-101 may not count toward the unit requirement):

| | | |
|---------|---|--------|
| ECL200A | Principles and applications of ecology (5) | WINTER |
| ECL200B | Principles and applications of ecology (5) | WINTER |
| ECL205 | Community ecology (4) | WINTER |
| ECL208 | Issues in conservation biology (4) | WINTER |
| ECL212A | Environmental policy process (4) | WINTER |
| ECL212B | Environmental policy evaluation (4) | WINTER |
| ECL232 | Theoretical ecology (3) | WINTER |
| ENT153 | Medical entomology (3) | WINTER |
| ENT225 | Terrestrial field ecology (4) | FALL |
| ENT253 | Advanced medical entomology (3) | FALL |
| EVE100 | Introduction to evolution (4) | WINTER |
| EVE101 | Introduction to ecology (4) | WINTER |
| MPM201 | Emerging issues at the interface of ecosystem, animal and human health(2.5) | FALL |
| WFC122 | Populations dynamics and estimation (4) | SPRING |
| WFC151 | Wildlife ecology (4) | FALL |
| WFC153 | Wildlife ecotoxicology (4) | WINTER |

9. Zoonotic and Vector-borne diseases

Area-specific courses (minimum 6 units):

| | | |
|--------|---|-------------------|
| ENT153 | Medical entomology (3) | WINTER |
| ENT156 | Biology of parasitism (3) | SPRING |
| ENT253 | Advanced medical entomology (3) | FALL |
| MMI215 | Medical Parasitology (3) | SPRING |
| PMI214 | Vector-borne infectious diseases: changing patterns (2) | FALL |
| VME158 | Infectious Disease in Ecology and Conservation (3) | WINTER |
| VME258 | Infectious Disease in Ecology and Conservation (3) | WINTER |
| VME217 | Evaluation and application of diagnostic tests (2) | SPRING odd yrs |

10. Cancer Epidemiology

Area-specific courses

| | | |
|-------------|--|------------------------|
| EPI 226 | Methods for Longitudinal and Repeated Measurement Data (3) | Spring |
| EPI 227 | Meta Analysis (4) | Spring |
| EPI/SPH 252 | Social Epidemiology (2) | Not offered 2020/21 |
| SPH 210 | Public Health Informatics (2) | Summer |
| SPH 213 | Health Disparities in the U.S. (3) | Spring |
| SPH 222 | Social & Behavioral Aspects of Public Health (3) | Winter |
| PHR 266 | Applied analytic epidemiology (3) | Spring |
| STA 135 | Multivariate data analysis (4) | Fall |
| STA 137 | Applied time series analysis (3) | Winter |
| STA 138 | Analysis of categorical data (4) | Winter |
| STA 141A | Fundamentals of Statistical Data Science (4) | Spring |
| STA 141B | Data & Web Technologies for Data Analysis (4) | Fall |
| STA 141C | Big Data and High Performance Statistical Computing (4) | Fall |
| STA 145 | Bayesian statistical inference (4) | Fall |
| STA 205 | Statistical methods for research (4) | Fall |
| BST/STA 222 | Biostatistics: Survival analysis (4) | Fall |
| BST/STA 223 | Biostatistics: Generalized linear models (4) | Fall |

| | | |
|-------------|---|---------------------|
| BST/STA 224 | Analysis of longitudinal data (4) | Spring |
| BST/STA 225 | Clinical trials (4) | Spring |
| BST/STA 226 | Statistical methods for bioinformatics (4) | Fall |
| BST/STA 252 | Advanced topics in biostatistics (4) | Fall |
| VME 217 | Evaluation of diagnostic tests (2) | Spring odd years |
| ETX 140 | Genes & the Environment (3) | Fall |
| SOC 162 | Society, Culture, & Health (4) | Fall |
| SOC 163 | Population Health: Social Determinants & Disparities in Health(4) | Fall |
| SOC 164 | Health Policy & Politics (4) | Spring |