

## **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 Control(3)	Concepts & Methods in Infectious Disease Surveillance &	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 health(2.5)	Emerging issues at the interface of ecosystem, animal and human	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