

AREA OF INTEREST – APPROVED ELECTIVES
Graduate Group in Epidemiology

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

- MS Plan I (thesis option): 9 units in an Area of Interest
- MS Plan II (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 a single **Area of Interest subject-matter** 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

GGE AREA OF INTEREST - APPROVED ELECTIVES

AOI approved elective courses listed in this document are drawn directly from the [UC Davis General Catalog](#) and are subject to change without notice.

If you do not see the course you are looking for in the [Class Search Tool](#) or [Schedule Builder](#), contact the Graduate Coordinator of the department offering the course for additional information.

Courses are offered on a variable schedule and may not be offered during the time you will be taking coursework. Priority registration may be given to students in the department offering the course.

Department Prefix Guide

ARE	Agricultural and 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	Preventative Veterinary Medicine
MIC	Microbiology
MMI	Medical Microbiology and Immunology
MCP	Molecular, Cellular, and Integrative Physiology
NPB	Neurobiology, Physiology, and Behavior
NRS	Nursing
NUT	Nutrition
PHR	Population Health and Reproduction
PSY	Psychology
PTX	Pharmacology and Toxicology
STA	Statistics
VME	Veterinary Medicine and Epidemiology
WFC	Wildlife, Fisheries, and Conservation Biology

1. Epidemiologic Methods and Biostatistics

BST/STA 225	Clinical trials (4)	SPRING
EPI 209	History of Epidemiology in Public Health (2)	WINTER
EPI 223	Spatial epidemiology (3)	SPRING Alternating odd years; (e.g. offered in Spring 2021)
EPI 224	Health and ecological risk analysis (4)	SPRING Alternating even years (e.g. offered in Spring 2020)
EPI 225	Advanced topics in epidemiology methods (2)	SPRING
EPI 226	Methods for Longitudinal Data & Repeated Measurement Data (3)	FALL Alternating odd years; (e.g. offered in Fall 2021)
EPI 227	Meta Analysis (4)	FALL Alternating even years (e.g. offered in Fall 2020)
EPI 230	Introduction to molecular epidemiology (3)	SPRING Alternating odd years; (e.g. offered in Spring 2021)
MHI 209	Decision Acquisition Analysis (4)	SPRING
MHI 210	Introduction to Health Informatics (4)	FALL
MHI 289F	Database and Knowledge Management (4)	WINTER
MPM 207	Applied Epidemiology Problem solving (1)	WINTER
MPM 212	Concepts and Methods in Infectious Disease Surveillance and Control (3)	WINTER
PHR/SPH 266	Applied analytic epidemiology (3)	SPRING
SPH 298	Advanced Concepts and Practical Applications in Epidemiologic Research (1-5)	WINTER/ SPRING
STA 135	Multivariate data analysis (4)	WINTER/ SPRING
STA 137	Applied time series analysis (4)	F/W/S
STA 138	Analysis of categorical data (4)	FALL/ WINTER
STA 141A	Fundamentals of Data Science (4)	F/W/S
STA 141B	Data and Web Technologies for Data Analysis (4)	F/W/S
STA 141C	Big Data and High-Performance Statistical Comp (4)	WINTER/ SPRING
STA 145	Bayesian statistical inference (4)	SPRING
STA 205	Statistical methods for research in SAS (4)	FALL

PHR 277/EPI 277	Mathematical models in epidemiology (3)	FALL
VME 217	Evaluation and application of diagnostic tests (2)	SPRING Alternating odd years; (e.g. offered in Spring 2021)

2. Health Services and Health Economics

Area-specific courses (ECN 100 and AREA 100A may not count towards unit requirement)

ARE 100A	Intermediate microeconomics: Theory of production and consumption (4)	F/W/S
ARE 100B	Intermediate microeconomics: Imperfect competition, markets, and welfare economics (4)	F/W/S
ARE 130	Agricultural Markets (4)	WINTER
ARE 147	Resource and environmental policy analysis (4)	SPRING
ARE 176	Environmental economics (4)	FALL/ WINTER
ARE/ECN 204	Microeconomic analysis (4)	FALL
ARE/ECN 215A	Microdevelopment theory and methods I (4)	FALL
AREA/ECN 215C	Microdevelopment theory and methods II (4)	SPRING
ARE/ECN 240A	Econometric methods (4)	WINTER
ARE/ECN 240B	Econometric methods (4)	SPRING
ARE 252	Optimization with Economic Applications (4)	WINTER
CLH 210Y	Principles and Methods of Comparative Effectiveness Research (4)	SPRING
ECN 100A	Intermediate micro theory: Consumer and Producer Theory (4)	F/W/S
ECN 100B	Intermediate micro theory: Imperfect Competition and Market Failure (4)	F/W/S
ECN 102	Analysis of economic data (4)	F/W/S
ECN 132	Health economics (4)	SPRING
ECN 140	Econometrics (4)	WINTER/ SPRING
ECN 151A	Economics of the labor market (4)	WINTER/ SPRING
ECN 151B	Economics of human resources (4)	FALL
ECN 250A	Labor economics (4)	WINTER

ECN 250B	Labor economics (4)	SPRING
EPI 291	Seminars in human health services research and clinical epidemiology (1 unit maximum)	F/W/S
SPH 246	Biostatistics for Clinical Research (4)	SPRING
SPH 273	Health services administration (3)	SUMMER
SPH 274	Economic Evaluation in Health Care (3)	FALL
SPH 276	Health Policy and Economics	SPRING

3. Infectious Disease Epidemiology

Area-specific courses (ECL 220 cannot be applied towards unit requirement)

ABT 182	Environmental analysis using GIS (4)	WINTER
ENT 153	Medical entomology (3)	WINTER
ENT 156	Biology of parasitism (3)	SPRING
ENT 253	Advanced Medical Entomology (3)	FALL
EVE 100	Introduction to evolution (4)	F/W/S
EVE 101	Introduction to ecology (4)	F/W/S
SPH 204	Globalization and Health: Evidence and Policies (3)	FALL
EPI 230	Introduction to molecular epidemiology (3)	SPRING Alternating odd years; (e.g. offered in Spring 2021)
EPI 231	Infectious Disease Epidemiology (3)	SPRING
EPI/PHR 277	Mathematical Models in Epidemiology (3)	FALL
MIC 162	General virology (3)	WINTER
MIC 215	Recombinant DNA (3)	FALL
MMI 200D	Mechanisms of microbial interactions with hosts (3)	WINTER
MMI 215	Medical parasitology (3)	SPRING
MMI 280	Endogenous Microbiota in Health and Disease (3)	SPRING
MPM 201	Emerging Issues at Interface of Animal, Human and Ecosystem Health (2.5)	FALL
MPM 207	Applied epidemiology problem solving (1)	WINTER
MPM 212	Concepts and Methods in Infectious Disease Surveillance and Control (3)	WINTER

PMI 126	Fundamentals of immunology (3)	WINTER
PMI 126L	Immunology Lab (2)	WINTER
PMI 128	Biology of animal viruses (3)	FALL/ SPRING
PMI 270	Advanced immunology (3)	SPRING
VME 158	Infectious Disease in Ecology and Conservation (3)	WINTER
VME 258	Infectious Disease in Ecology and Conservation Lab (1)	WINTER

4. Nutritional Epidemiology

Area-specific courses (NUT 111-112 may not count toward unit requirement)

FST 211	Lipids: chemistry and nutrition (3)	WINTER
NUT 11AY	Introduction to nutrition and metabolism (3)	WINTER
NUT 11B	Recommendations and standards for human nutrition (2)	SPRING
NUT 112	Nutritional assessment: Dietary, anthropometric, and clinical measures (4)	SPRING
NUT 219A	International Nutrition (3)	SPRING
NUT 219B	International Nutrition (3)	FALL
NUT 252	Nutrition and development (3)	WINTER
NUT 258	Field research methods in international nutrition (3)	WINTER

5. Occupational and Environmental Epidemiology

EBS 228	Occupational Musculoskeletal Disorders (3)	SPRING
ECI 149	Air Pollution (4)	FALL
EPI 251	Environmental epidemiology (3)	WINTER
EPI 260	Epidemiology of Chronic Diseases and Aging (3)	WINTER
EPI 272	Cancer epidemiology (2)	WINTER
SPH 222	Social and behavioral aspects of public health (3)	WINTER
SPH 255	Human reproductive epidemiology (3)	SPRING
SPH 262	Principles of environmental health sciences (3)	FALL
ETX 101	Principles of environmental toxicology (4)	FALL
ETX 102A	Environmental fate of toxicants (4)	WINTER

ETX 102B	Quantitative analysis of environmental toxicants (5)	SPRING
ETX 103A	Biological effects of toxicants (4)	WINTER
ETX 103B	Biological effects of toxicants: Experimental approaches (5)	SPRING
ETX 128	Food toxicology (3)	WINTER/ SPRING
ETX 131	Environmental toxicology of air pollutants (3)	FALL
ETX 135	Health risk assessments of toxicants (3)	FALL
ETX 138	Legal aspects of environmental toxicology (3)	WINTER
ETX 146	Exposure and dose assessment (3)	SPRING
ETX 203	Environmental toxicants (4)	SPRING
ETX 270	Toxicology of Pesticides (3)	WINTER
NPB 121	Physiology of reproduction (4)	WINTER
NPB 121/L	Physiology of reproduction laboratory (1)	WINTER
PTX 201	Principles of pharmacology and toxicology I (5)	FALL
PTX 202	Principles of pharmacology and toxicology II (4)	WINTER
PTX 203	Principles of pharmacology and toxicology III (4)	SPRING
PTX 230	Advanced topics in pharmacology and toxicology (1-3)	FALL/ SPRING

6. Reproductive, Perinatal, Developmental, and Pediatric Epidemiology

Area-specific courses (ECN 100 and ARE 100A may not count toward unit requirement)

ANS 123	Animal growth and development (4)	SPRING
ANS 124	Lactation (4)	WINTER
ANS 131	Reproduction and early development in aquatic animals (4)	WINTER
AVS 103	Avian development and genomics (3)	FALL
AVS 121	Avian reproduction (2)	FALL
EDU 210	Psychological perspectives on school learning (4)	FALL
EPI 230	Introduction to molecular epidemiology (3)	SPRING Alt year
EPI 251	Environmental epidemiology (3)	WINTER
SPH 255	Human reproductive epidemiology (3)	SPRING
ETX 250	Reproductive toxicology (3)	WINTER
HDE 200A	Early development (4)	FALL
HDE 200B	Middle childhood and adolescence (4)	WINTER
HDE 220	Research methods in human growth and development (4)	WINTER
NPB 121	Physiology of reproduction (4)	WINTER
NPB 121/L	Physiology of reproduction laboratory (1)	WINTER
NPB 122	Developmental endocrinology (3)	SPRING
NUT 219A/B	International Nutrition (3)	FALL/ SPRING
NUT 252	Nutrition and development (3)	WINTER

7. Social and Behavioral Epidemiology

CMN 222	Risk Communication (4)	FALL
CMN 232	Health communication (4)	FALL
CMN 243	Media and health (4)	SPRING
CRD 172	Social inequality: Issues and innovations (4)	WINTER
CRD 240	Community development theory (4)	FALL
CRD 247	Transformation of work (4)	SPRING

EPI 231	Infectious disease epidemiology (3)	SPRING
EPI 260	Epidemiology of chronic diseases and aging (3)	WINTER
SOC 254	Sociology of health and illness (4)	WINTER
SPH 222	Social and behavioral aspects of public health (3)	WINTER

8. Wildlife Epidemiology

Area-specific courses (EVE 100-101 may not count towards unit requirement)

ECL 200A	Principles and applications of ecology (5)	FALL
ECL 200B	Principles and applications of ecology (5)	WINTER
ECL 205	Community ecology (4)	WINTER
ECL 208	Issues in conservation biology (4)	SPRING
ECL 212A	Environmental policy process (4)	WINTER
ECL 212B	Environmental policy evaluation (4)	WINTER
ECL 232	Theoretical ecology (3)	WINTER
ENT 153	Medical entomology (3)	WINTER
ENT 225	Terrestrial field ecology (4)	SPRING
ENT 253	Advanced medical entomology (3)	FALL
EVE 100	Introduction to evolution (4)	F/W/S
EVE 101	Introduction to ecology (4)	F/W/S
MPM 201	Emerging Issues at the Interface of Animal, Human, & Ecosystem Health (2.5)	FALL
WFC 122	Population dynamics and estimation (4)	SPRING
WFC 151	Wildlife ecology (4)	FALL
WFC 153	Wildlife ecotoxicology (4)	WINTER

9. Zoonotic and Vector-Borne Disease Epidemiology

ENT 153	Medical entomology (3)	WINTER
ENT 156	Biology of parasitism (3)	SPRING
ENT 253	Advanced medical entomology (3)	FALL
MMI 215	Medical parasitology (3)	SPRING
PMI 214	Vector-borne infectious diseases: changing patterns (2)	FALL
VME 158	Infectious disease in ecology and conservation (3)	WINTER/ SPRING
VME 258	Infectious Disease in Ecology and Conservation Lab (1)	WINTER
VME 217	Evaluation and application of diagnostic tests (2)	SPRING

10. Cancer Epidemiology

BST/STA 222	Biostatistics: Survival analysis (4)	FALL
BST/STA 223	Biostatistics: Generalized linear models (4)	WINTER
BST/STA 224	Analysis of longitudinal data (4)	SPRING
BST/STA 225	Clinical trials (4)	SPRING
EPI 226	Methods for Longitudinal and Repeated Measurement Data (3)	FALL
EPI 272	Cancer Epidemiology (2)	WINTER
ETX 140	Genes and the environment (3)	FALL
PHR 266	Applied analytical epidemiology (3)	SPRING
SOC 162	Society, culture, and health (4)	FALL/ SPRING
SOC 163	Population health: Social determinants and disparities in health (4)	WINTER
SOC 164	Health policy and politics (4)	SPRING
SPH 210	Public health informatics (2)	FALL
SPH 213	Health disparities in the U.S. (3)	SPRING
STA 135	Multivariate data analysis (4)	WINTER/ SPRING
STA 137	Applied time series analysis (4)	F/W/S
STA 138	Analysis of categorical data (4)	FALL/ WINTER
STA 141A	Fundamentals of Data Science (4)	F/W/S
STA 141B	Data and Web Technologies for Data Analysis (4)	F/W/S
STA 141C	Big Data and High-Performance Statistical Computing (4)	WINTER/ SPRING
STA 145	Bayesian statistical inference (4)	SPRING