WATERSHED INSTITUTE FOR COLLABORATIVE ENVIRONMENTAL STUDIES

Hibbard Humanities Hall 384
715-836-2628
Program Website (https://www.uwec.edu/academics/college-arts-sciences/departments-programs/watershed-institute)

Students interested in Environmental Studies and Sciences, Environmental Public Health, Public Health or Sustainability are encouraged to enroll in the Environmental Public Health Comprehensive Major (Code 640-001) or one of three interdisciplinary minors: Environmental Science (Code 155-400), Environment, Society, and Culture (Code 489-401), or Public Health (Code 488-401). Environmentally themed comprehensive majors are also available in other departments, including Ecology and Environmental Biology Emphasis (Code 080-001), Environmental Geography (Code 140-007), and Geology Environmental Science Emphasis (Code 160-010). Students wishing for a broader understanding of Environmental Studies can also seek to develop a program of study in the Liberal Studies Comprehensive Major (Code 370-001). Students in these programs take advantage of service learning opportunities, practicum/internship experiences, engage with activities and organizations on campus and in the community, and participate in faculty/student collaborative research.

Mission
We work collaboratively to build healthy, just, and sustainable human and ecological communities.

Values
We accomplish this mission through the application of the following principles in all we do:

- We collaborate across the campus and within the community, involving a broad range of interdisciplinary perspectives.
- Our efforts are centered on our students and their development.
- Both students and faculty are encouraged to be bold in how we teach and learn.
- We focus on imparting skills for life and career.
- Our program is distinctive—accomplishing our mission in innovative ways.
- We seek to be engaged in the world with our studies.
- At the same time, we are place-centered, recognizing the value of learning from and positively influencing our surroundings.
- We remain ecologically aware.
- We are ethically intentional in all these efforts.

The Watershed Institute consists of the faculty members listed on the faculty tab and affiliate members found in other home departments, programs, and units including: Art & Design, Biology, Blugold Dining Services, Chemistry, Communication and Journalism, Economics, English, Geography and Anthropology, Geology, Music and Theatre Arts, Philosophy and Religious Studies, and Sociology.

Faculty
Karen Mumford, Program Director
James Boulter
Crispin Pierce

David Soll
Laura Suppes

majors
Comprehensive Major: Environmental Public Health - B.S.E.P.H.

minors
- Minor: Environment, Society, and Culture, Liberal Arts
- Minor: Environmental Science, Liberal Arts
- Minor: Public Health, Liberal Arts

Environmental Public Health (ENPH)
ENPH 110 Introduction to Environmental Health (3 crs)
- A basic understanding and interest in science is recommended prior to enrollment in this course. Wellness for one credit.

Health-oriented problems in the environment with attention directed to air and water pollution, solid waste, housing, occupational health and safety, food sanitation, animal zoonoses, ecology of health and disease, radiological health, energy, and global environmental health.

Attributes: Wellness Theory, GE IIF Natural Science-Interdisciplinary Studies, LE-K1 Natural Sciences, LE-R3 Civic and Environmental Issues
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

ENPH 115 Global Environmental and Public Health (3 crs)
Explores endemic and emerging health issues affecting global populations.
Aims to familiarize students with adverse health outcomes associated with global socio-economic disparities.

Attributes: GE IIIG Social Science-Interdisciplinary Study, LE-K2 Social Sciences, LE-R2 Global Perspectives
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

ENPH 150 Disease Detectives: Epidemics and Data (3 crs)
Prerequisite: MATH 20 or Placement in MATH 104 or above. No credit if taken after ENPH 450.
Introduction to disease outbreak investigation. Epidemiology as a scientific way of thinking using non-intensive mathematics including examples from current events.

Attributes: GE IIIF Natural Science-Interdisciplinary Studies, LE-K1 Natural Sciences, LE-R3 Civic and Environmental Issues
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0
ENPH 225 Introduction to Public Health (3 crs)
- Wellness for one credit. Credit may not be earned in both ENPH 225 and NRSG 225.

Examines population health and disease considering historical and current public health practice. Focus areas include cultural, political, environmental, and socio-economic influences that increase population vulnerability and risk. Effectiveness of public health interventions is analyzed.

Attributes: Wellness Theory, Cultural Diversity 1 cr., GE V University Wide, LE-DDIV Design for Diversity, LE-I1 Integration, LE-R1 Equity, Diversity, and Inclusivity
Grading Basis: A-F Grades Only
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

ENPH 291 Special Topics (1-3 crs)
Consent: Instructor Consent Required
A variable content course consisting of topics of special interest to students and faculty that are not covered in other environmental health courses.
Repeat: Course may be repeated for a maximum of 6 credits
Lecture/Discussion Hours: 1-3
Lab/Studio Hours: 0

ENPH 322 Radiological Health (3 crs)
Prerequisite: PHYS 211 and PHYS 212
Provides an overview of the types of radiation, sources, measurement and control of ionizing and nonionizing radiation, medical uses, protection from exposure, and current topics such as food irradiation, and nuclear power and weapons.
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

ENPH 397 Student Academic Apprenticeship (1-2 crs)
Prerequisite: Limited to environmental public health majors.
Consent: Instructor Consent Required
Experience for qualified students to facilitate teaching and learning in ENPH courses. Students develop and enhance knowledge in ENPH and their abilities to communicate that knowledge to other students.
Repeat: Course may be repeated for a maximum of 4 credits
Grading Basis: S/U Only Grade Basis
Lecture/Discussion Hours: 1-2
Lab/Studio Hours: 0

ENPH 399 Independent Study (1-3 crs)
Prerequisite: Minimum junior standing.
Consent: Department Consent Required
An opportunity for students to pursue an environmental research topic of their choice in collaboration with a faculty mentor.
Repeat: Course may be repeated

ENPH 422 Radiation, Air Pollution and Health (3 crs)
Prerequisite: PHYS 212 or PHYS 232; CHEM 103 or CHEM 105 and CHEM 106. No credit if taken after ENPH 322
Safety and health implications of ionizing radiation and human and environmental health consequences of air pollution in the context of public health.
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

ENPH 432 Preparation for Practicum (2 crs)
Prerequisite: Limited to environmental public health majors. Minimum junior standing.
An interactive course covering expectations during practicum, presentations on various areas of environmental health practice, opportunities for shadowing, preparation of resumes, practice interviewing.
Grading Basis: A-F Grades Only
Lecture/Discussion Hours: 2
Lab/Studio Hours: 0

ENPH 435 Practicum in Environmental Public Health (3 crs)
Prerequisite: ENPH 432. Minimum junior standing.
Consent: Instructor Consent Required
A full-time supervised 10-week internship experience in an approved governmental agency, industry, or consulting company.
Attributes: LE-I1 Integration, Service-Learning, Full 30 Hours
Repeat: Course may be repeated for a maximum of 8 credits
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

ENPH 441 Water and Wastewater (3 crs)
Prerequisite: ENPH 110; BIOL 111 or BIOL 151; and CHEM 104 or CHEM 109 or CHEM 115 or consent of instructor.
Investigative procedures, sampling techniques, analysis and treatment of water and wastewater. Emphasis on water pollution, aquatic nuisances, drinking water quality, on-site waste disposal, municipal and industrial wastewater treatment, private wells, and groundwater contamination.
Lecture/Discussion Hours: 2
Lab/Studio Hours: 2

ENPH 443 Microbial Safety of Food (4 crs)
Prerequisite: BIOL 250, BIOL 306, or BIOL 361 or concurrent registration in any of these three courses. No credit if taken after ENPH 442.
Principles of food microbiology including common foodborne pathogens, strategies to protect the food supply, environmental sanitation, regulations, and HACCP. Environmental sampling of food and milk, common laboratory tests.
Attributes: Field Trip(s) Required
Grading Basis: A-F Grades Only
Lecture/Discussion Hours: 3
Lab/Studio Hours: 2
ENPH 445 Hazardous and Solid Waste Management (3 crs)
Examination of the generation, use, handling, and storage of solid waste, and of materials posing significant chemical, biological, and radiological risks to health. Several field trips will supplement in-class learning.
Attributes: Field Trip(s) Required
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

ENPH 450 Epidemiology (3 crs)
Prerequisite: MATH 245 or MATH 246 or PSYC 265
Fundamentals of epidemiology including measures of morbidity and mortality, descriptive epidemiology, and principles of epidemiologic study design. Selected topics related to infectious disease, chronic disease, and environmental epidemiology are included.
Attributes: GE V University Wide
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

ENPH 460 Fundamentals of Industrial Hygiene (3 crs)
Prerequisite: ENPH 110 and MATH 246.
The recognition, evaluation, and control of chemical, physical, biological and ergonomic stresses that may cause sickness or impaired health to employees or residents of the community.
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

ENPH 464 Occupational Safety Management (3 crs)
Prerequisite: BIOL 151, BIOL 214, BIOL 221, BIOL 250, or consent of instructor.
Vector-borne disease health effects, identification of vectors and pests, and approaches for preventing vector-borne disease globally, nationally and regionally.
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

ENPH 490 Environmental Toxicology and Risk Assessment (3 crs)
Prerequisite: BIOL 211 or 111, ENPH 110 or 210, CHEM 325 or consent of instructor.
Examination of the principles, theories, and applications of human environmental toxicology through investigation of chemical, cellular, physiological, environmental, and ecological levels. Introduction to contemporary health risk assessment methods.
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

ENPH 491 Special Topics (1-3 crs)
Consent: Instructor Consent Required
A variable content course consisting of advanced topics of special interest to students and faculty that are not covered in other environmental health courses.
Repeat: Course may be repeated for a maximum of 6 credits
Lecture/Discussion Hours: 1-3
Lab/Studio Hours: 0

ENPH 495 Directed Studies (1-3 crs)
Consent: Department Consent Required
Permits the student to pursue a defined organized study of a problem in an intensive way under the direction of a department of public health professions staff member.
Repeat: Course may be repeated

ENPH 499 Independent Study (1-3 crs)
Prerequisite: Minimum senior standing.
Consent: Department Consent Required
An opportunity for senior students to pursue an environmental topic of their choice. A detailed project report will be required.
Repeat: Course may be repeated

Environmental Studies (ENV)

ENV 101 Sustainability Basics and Beyond (4 crs)
Examine key social drivers that facilitate or limit the sustainability of communities by integrating concepts and skills with personal experience.
Attributes: GE IIIG Social Science-Interdisciplinary Study, LE-K2 Social Sciences, LE-K2L Social Sciences with Lab, LE-R3 Civic and Environmental Issues, Field Trip(s) Required
Lecture/Discussion Hours: 3
Lab/Studio Hours: 2

ENV 140 Water Problems, Water Solutions (3 crs)
This course introduces students to the political, social, and environmental challenges of water use and management in the United States and worldwide.
Attributes: GE IIIG Social Science-Interdisciplinary Study, LE-K2 Social Sciences, LE-R3 Civic and Environmental Issues, Field Trip(s) Required
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0
ENV 291 Special Topics - Environmental Studies (1-3 crs)
A variable content course designed to allow a breadth of exposure to topics in environmental and/or sustainability studies selected because of special interest on the part of students or faculty. May include field trips.
Repeat: Course may be repeated for a maximum of 6 credits

ENV 310 Sustainable Cities (3 crs)
Using Portland, Oregon, as a case study, the course will explore sustainable cities from the perspective of health, the environment, and social cohesion.
Attributes: GE III G Social Science-Interdisciplinary Study, LE-K2 Social Sciences, LE-R3 Civic and Environmental Issues, Service-Learning, Half 15 Hours, Field Trip(s) Required
Grading Basis: A-F Grades Only
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

ENV 330 Waste & Society: Energy, Food, and Efficiency (3 crs)
Examines a feature of the environment often overlooked: waste. Students will draw on literature, sociology, history, and political science to understand the place of waste in the contemporary world.
Attributes: GE III G Social Science-Interdisciplinary Study, LE-R3 Civic and Environmental Issues, Service-Learning, Half 15 Hours, Field Trip(s) Required
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

ENV 346 American Environmental History (3 crs)
Prerequisite: Six credits of history, or junior standing, or consent of instructor.
Credit may not be earned in both ENV 346 and HIST 346. No credit if taken after HIST 491 when offered as American Environmental History.
Examines interactions between human societies and the natural world in what is now the United States. Through readings and several field trips students will learn the essential elements of American Environmental History.
Attributes: GE IVC Humanities-History, LE-K3 Humanities, Undergraduate/Graduate Offering, Field Trip(s) Required, Special Course Fee Required
Seminar Hours: 3

ENV 377 U.S. Environmental and Sustainability Policy (3 crs)
Credit may not be earned in both ENV 377 and GEOG 377.
Students will study U.S. environmental and sustainability law and policy to assess the roles of science, key actors, and values in policymaking.
Attributes: GE III G Social Science-Interdisciplinary Study, LE-K2 Social Sciences, LE-R3 Civic and Environmental Issues, Field Trip(s) Required
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

ENV 378 International Environmental Problems and Policy (3 crs)
Credit may not be earned in both GEOG 378 and ENV 378.
Examination of the threats to the global environment and the response of the international community.
Attributes: Foreign Culture, GE III C Social Science-Geography, LE-I1 Integration, LE-R3 Civic and Environmental Issues
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

ENV 395 Directed Studies (1-3 crs)
Consent: Department Consent Required
For the student who wishes to pursue a defined, organized study of an interdisciplinary environmental studies topic under the direction of a faculty member.
Repeat: Course may be repeated for a maximum of 6 credits
Grading Basis: A-F Grades Only

ENV 399 Independent Study - Juniors (1-3 crs)
Prerequisite: Minimum junior standing.
Consent: Department Consent Required
An opportunity for students to pursue an interdisciplinary environmental studies topic in collaboration with a faculty mentor. A detailed project plan and report will be required.
Repeat: Course may be repeated for a maximum of 6 credits
Grading Basis: A-F Grades Only

ENV 491 Special Topics - Advanced Environmental Studies (1-3 crs)
A variable content course designed to allow a breadth of study through intensive investigation of a topic in environmental and/or sustainability studies selected because of special interest on the part of students or faculty. May include field trips.
Repeat: Course may be repeated for a maximum of 6 credits

ENV 495 Directed Studies - Seniors (1-3 crs)
Prerequisite: Minimum senior standing.
Consent: Department Consent Required
For the senior student who wishes to pursue a defined, organized study of an interdisciplinary environmental studies topic under the direction of a faculty member.
Repeat: Course may be repeated for a maximum of 6 credits
Grading Basis: A-F Grades Only

ENV 498 Environmental Studies Internship (1-6 crs)
Prerequisite: Minimum resident GPA of 3.0.
Consent: Department Consent Required
Appointment to a professional experience in an area of interest related to a student's theme of study, applying the student's understanding of environmental studies.
Attributes: Internship
Repeat: Course may be repeated for a maximum of 6 credits
Grading Basis: No Auditors
ENV 499 Independent Study - Seniors (1-3 crs)
Prerequisite: Minimum senior standing.
Consent: Department Consent Required
An opportunity for senior students to pursue an interdisciplinary environmental studies topic in collaboration with a faculty mentor. A detailed project plan and report will be required.
Repeat: Course may be repeated for a maximum of 6 credits
Grading Basis: A-F Grades Only

ENV 546 American Environmental History (3 crs)
• Cross-listed with ENV 346 and HIST 346/HIST 546. Credit may only be earned in one of these courses. No credit if taken after HIST 491 when offered as American Environmental History.

Examines interactions between human societies and the natural world in what is now the United States. Through readings and several field trips students will learn the essential elements of American Environmental History.
Attributes: Field Trip(s) Required, Special Course Fee Required
Grading Basis: No S/U Grade Option
Lab/Studio Hours: 0
Seminar Hours: 3