COLORADO SCHOOL OF PUBLIC HEALTH
Master of Public Health

Fall 2016

Environmental and Occupational Health
Concentration Information

http://ucdenver.edu/academics/colleges/PublicHealth/academics/departments/EnvironmentalOccupationalHealth/Pages/welcome.aspx
<table>
<thead>
<tr>
<th>Name</th>
<th>Research Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>John Adgate, PhD, Department Chair</td>
<td>Exposure Science, Risk Assessment, Children’s environmental health, Pesticide exposure, Outdoor and indoor characterization of toxic air pollutants</td>
</tr>
<tr>
<td>Alison K. Bauer, PhD</td>
<td>Environmental toxicology, Mechanisms of environmental carcinogenesis including PAHs, particles and metals, Innate immunity in ozone-induced pulmonary responses and in pulmonary neoplasia, Cancer chemoprevention</td>
</tr>
<tr>
<td>Elizabeth Carlton, PhD</td>
<td>Emerging infectious diseases, Health impacts of climate change, neglected tropical diseases</td>
</tr>
<tr>
<td>Debra Kreisberg, PhD</td>
<td>Emergency preparedness, disaster preparedness and response, culturally diverse populations</td>
</tr>
<tr>
<td>Lisa McKenzie, PhD</td>
<td>Exposure assessment, Natural gas development, Air pollution</td>
</tr>
<tr>
<td>Lee Newman, MD</td>
<td>Occupational medicine, Health effects of beryllium and other metals, Environmental and occupational etiology, Immunology</td>
</tr>
<tr>
<td>Rosemary Rochford, PhD</td>
<td>Environment and cancer, global health research, malaria</td>
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<tr>
<td>Natalie Schwatka, PhD</td>
<td>Occupational safety and health, Safety culture/climate, Safety leadership, Workers’ compensation, Total Worker Health</td>
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<tr>
<td>Joshua Scott, PhD</td>
<td></td>
</tr>
<tr>
<td>Liliana Tenney, MPH</td>
<td>Occupational health, workplace wellness, community and behavioral health</td>
</tr>
<tr>
<td>Roxana Witter, MD</td>
<td>Environmental Toxicology, Health effects of oil and gas activities, Health effects of methamphetamine exposure</td>
</tr>
</tbody>
</table>

EOH Student Handbook
Revised 04.2016
Core Affiliate EOH Faculty

<table>
<thead>
<tr>
<th>Name</th>
<th>Affiliation</th>
<th>Specialization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethan Moses, MD</td>
<td>Denver Health Division of Occupational Medicine</td>
<td>Occupational health and safety</td>
</tr>
<tr>
<td>Geoffrey Plumlee, PhD</td>
<td>US Geological Survey</td>
<td>Environmental geology, Geochemistry and public health</td>
</tr>
<tr>
<td>Cecile Rose, MD</td>
<td>National Jewish Health</td>
<td>Environmental and occupational diseases, Pulmonary disease research</td>
</tr>
<tr>
<td>Deborah Thomas, PhD</td>
<td>University of Colorado Geography</td>
<td>Environmental hazards and disasters, Health geography, Geographic information systems, Environmental health, policy and planning</td>
</tr>
<tr>
<td>Mike Van Dyke, PhD</td>
<td>Colorado Department of Public Health and Environment</td>
<td>Environmental and occupational diseases, Industrial hygiene, Environmental sampling</td>
</tr>
<tr>
<td>Brian Williams, MD</td>
<td>Exempla Physicians</td>
<td>Occupational health and safety</td>
</tr>
</tbody>
</table>

What EOH offers for you:

- Training in toxicology, exposure and risk assessment, environmental policy and geographic information systems
- Tools to identify critical environmental exposures, draft environmental legislation, combat urban sprawl and mitigate disasters
- Exploration of research in air pollution, occupational safety, oil and gas activities and the built environment
- Preparation to work for corporations, hospitals, government agencies, poison control centers and universities
- Preparation for careers such as environmental protection officers, policy analysts, toxicologists, food safety specialists and industrial hygienists
## Basic MPH/EOH Requirements

### MPH Public Health Core Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Biostatistics I</td>
<td>BIOS 6601</td>
<td>3</td>
</tr>
<tr>
<td>Epidemiology</td>
<td>EPID 6630</td>
<td>3</td>
</tr>
<tr>
<td>Social and Behavioral Factors in Health</td>
<td>CBHS 6610</td>
<td>3</td>
</tr>
<tr>
<td>Environmental and Occupational Health</td>
<td>EHOH 6610</td>
<td>3</td>
</tr>
<tr>
<td>Health Systems and Management</td>
<td>HSMP 6601</td>
<td>3</td>
</tr>
<tr>
<td>Foundations in Public Health</td>
<td>PUBH 6600</td>
<td>2</td>
</tr>
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</table>

**Total MPH Core Credits**: 17

### EOH Core Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Health Policy and Practice</td>
<td>EHOH 6618</td>
<td>3</td>
</tr>
<tr>
<td>Environmental Exposures and Health Effects</td>
<td>EHOH 6619</td>
<td>3</td>
</tr>
<tr>
<td>Choice of 2 from the following 4 core course options (if taking all 4, two will be counted as an elective):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental and Occupational Toxicology</td>
<td>EHOH 6616</td>
<td>3</td>
</tr>
<tr>
<td>Environmental and Occupational Epidemiology</td>
<td>EHOH 6617</td>
<td>3</td>
</tr>
<tr>
<td>Risk Assessment and Decision Making</td>
<td>EHOH 6620</td>
<td>3</td>
</tr>
<tr>
<td>Health Protection &amp; Health Promotion in the Workplace</td>
<td>EHOH 6628</td>
<td>3</td>
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**Total EOH Core Courses**: 12

### Electives

**9**

### Practicum

**2**

### Capstone

**2**

**Total Credits**: 42
Sample Schedule

**Fall Semester Year 1**
Environmental and Occupational Health (MPH core)  EHOH 6614  3
Applied Biostatistics I (MPH core)  BIOS 6601  3
Epidemiology (MPH core)  EPID 6630  3
Foundations in Public Health (MPH core)  PUBH 6600  2
**Total credits** 11

**Spring Semester Year 1**
Social and Behavioral Factors and Health (MPH core)  CBHS 6610  3
Health Systems and Management (MPH core)  HSMP 6601  3
Environmental Toxicology (EOH core)  EHOH 6616  3
**Total credits** 9

**Summer Semester Year 1**
GIS for Public Health Research and Practice (elective)  EHOH 6621  3
Public Health Emergency Preparedness (elective)  EHOH 6622  3
**Total credits** 6

**Fall Semester Year 2**
Environmental Exposure and Health Effects(EOH core)  EHOH 6619  3
Risk Assessment and Decision Making (EOH core)  EHOH 6620  3
Practicum  PUBH 6606  2
**Total credits** 8

**Spring Semester Year 2**
Environmental Health Policy and Practice (EOH core)  EHOH 6618  3
Environmental Epidemiology (EOH core or elective)  EHOH 6617  3
MPH Capstone Project  PUBH 6955  2
**Total credits** 8

**MPH Total credits** 42

EOH Electives:
EHOH 6621
EHOH 6622
EHOH 6623
EHOH 6624
EHOH 6625
EHOH 6627
EHOH 6628
EHOH 6629
EHOH 6635
EHOH 6670
EHOH 6710
CBHS 6612 OR EPID 6626
CBHS 6624
EPID 6624
GEDE 5100
PUAD 5450
PUAD 5631
PUAD 5633
PUAD 5650
URPL 5501
**MPH Core, EOH Core and Elective Options**

**BIOS 6601 | Applied Biostatistics I | 3 Credits | Campus: AMC – Fall, Summer**

This course will cover applied biostatistical methods including descriptive and statistical inference, odds ratio and relative risk, probability theory, parameter estimation, tests for comparing statistics of two or more groups, correlation and linear regression and overviews of multiple and logistic regression.

**CBHS 6610 | Social and Behavioral Factors and Health | 3 Credits | Campus: AMC – Spring, Summer**

This course considers social, behavioral and cultural factors that affect the health of individuals and populations and contribute to health disparities. Development, implementation and evaluation of programs and policies to promote and sustain healthy environments and lifestyles are examined.

**CBHS 6612 | Methods – Research and Evaluation | 3 Credits | Campus: AMC – Spring, Summer (Prereq: BIOS 6601)**

This course covers social science research methods, including qualitative/quantitative research designs, data collection and program evaluation to assess effectiveness of public health programs.

**CBHS 6624 | Community Health Assessment | 3 Credits | Campus: AMC – Fall (Prereq: EPID 6630, CBHS 6610)**

This course teaches how to assess the social, cultural, economic, physical and environmental components of population health. Students use national and local demographic and health data. Includes working with community clients and off campus community based fieldwork.

**EHOH 6614 | Introduction to Environmental and Occupational Health | 3 Credits | Campus: AMC – Fall, Spring**

This course presents an overview of information needed to assess the relationship between the environment, workplace and health. Topics include facets of industrial hygiene, air and water pollution, radiation monitoring, toxicology studies, clinical occupational medicine and biologic monitoring.

**EHOH 6616 | Environmental and Occupational Toxicology | 3 Credits | Campus: AMC – Spring (Prereq: Undergrad Biology and Chemistry)**

This course examines basic and applied concepts of toxicology in environmental and occupational settings. Mechanisms of injury to various body systems following exposure to toxicants are examined.
the systemic, organ, cellular, molecular and genetic level with particular reference to human disease and public health.

**EHOH 6617 | Environmental and Occupational Epidemiology | 3 Credits | Campus: AMC – Spring**

Overall goal of this course is to provide a background in epidemiology of diseases related to environmental and/or occupational exposures. Application of epidemiologic research methods to determine and prevent such diseases will be discussed.

**EHOH 6618 | Environmental Health Policy and Practice | 3 Credits | Campus: AMC – Spring (Prereq: EHOH 6614)**

This course provides a more in-depth examination of environmental health regulations, policies and practices by government agencies and other health related entities at the local, state, national and international level, capturing the continuum of environmental public health core functions including water and sanitation, air quality, food safety, housing, community design, and more broadly, sustainability and health.

**EHOH 6619 | Environmental Exposures and Health Effects | 3 Credits | Campus: AMC – Fall (Prereq: EHOH 6614, EPID 6630)**

This course integrates earth sciences, exposure sciences and biological sciences to understand conditions and circumstances of recent environmental and occupational exposure events, the methods to assess exposures and related health impacts. Case studies and laboratory exercises are used to guide instruction.

**EHOH 6620 | Risk Assessment and Decision Making | 3 Credits | Campus: AMC – Fall (Prereq: EHOH 6614, BIOS 6601 or equivalent)**

A general survey of risk analysis and risk based decision making covering the basic components of risk assessment, communication and management and how they are applied in various fields.

**EHOH 6621 | GIS for Public Health Research and Practice | 3 Credits | Campus: AMC – Spring, Fall**

This course will expose students to the fundamentals of Health Geographic Information Systems (GIS), including hands-on software experience, across a variety of application areas in the health sciences, particularly focusing on integrating GIS technologies appropriately into research design and practice.
EHOH 6622 | Public Health Emergency Preparedness | 3 Credits | Campus: AMC – Summer
This course will focus on the public health role in community disaster preparedness, including planning, response and recovery. This course explores the relationship between the 10 essential public health services and how these services can support the ability to prevent, respond to, and rapidly recover from public health emergencies.

EHOH 6623 | Geographic Perspectives on Public Health | 1 Credit | Campus: AMC – Summer
This course will review geographic concepts and tools taking a regional, holistic approach to understanding the world’s peoples, places and processes in order to lay a foundation for an improved knowledge of global health.

EHOH 6624 | Infectious Disease, Environmental Contexts | 3 Credits | Campus: AMC – Fall (Prereq OR Coreq: EHOH 6614, EPID 6630)
This course will study infectious diseases of both national and global importance through the lens of environmental health. The course draws concepts from ecology, parasitology and public health with an emphasis on how, as public health professionals, we might intervene to reduce infection risk.

EHOH 6625 | International Disasters and Global Humanitarianism | 3 Credits | Campus: AMC – Fall
This course will examine competing perspectives on both the human and natural causes of disaster that trigger disaster response and humanitarian action, discuss the actors involved in the international disaster network, and investigate the inherent difficulties in responding to humanitarian emergencies on the global stage.

EHOH 6627 | Water Quality and Public Health | 3 Credits | Campus: AMC – Fall
This course will cover concerns involving water quality issues ranging from contamination of drinking water to socio-political issues that impact accessibility to clean water. The course includes basic chemistry, biochemistry, environmental justice, trans-boundary, privatization, globalization, microbiological, physiological and medical issues.

EHOH 6628 | Health Protection and Health Promotion in the Workplace | 2 Credits | Campus: AMC – Fall
This course emphasizes wellness in the workplace as a positive approach to promote health and improve healthy behaviors among workers. Worksite wellness is an interdisciplinary field in public health
practice that includes nutrition, physical activity, safety, leadership, assessment, program development, communication and evaluation. Students will critically consider the research basis for worksite wellness and hear from business leaders and experts in the field.

**EHOH 6629 | Intro to Occupational Safety and Ergonomics | 2 Credits | Campus: AMC – Spring**

This course will form a foundation for the understanding of workplace factors important in the prevention of injuries. It will teach students to recognize safety and ergonomic hazards that may lead to injury and provide them with strategies to abate these hazards.

**EHOH 6630 | Occupational & Environmental Health Interdisciplinary Symposium | 2 Credits | Campus: AMC – Spring**

This course is a multidisciplinary field and consultation experience for students interested in understanding workplace health protection and promotion. Students apply principles and knowledge to effectively protect and promote occupational health and safety by providing consultative services in complex occupational settings.

**EHOH 6633 | International Travel and Health | 1 Credit | Campus: AMC – Spring**

This course will prepare students to understand the public health issues and risks that can be part of international travel. Topics will include pre-travel preparation, preventive health measures, safety and security, emergency management of common health problems, and management of group health.

**EHOH 6634 | Spectrum of Professions Protecting/Promoting Worker Health | 1 Credit | AMC – Fall**

Introduction to multiple occupational health professions including industrial hygiene, ergonomics, occupational health psychology, occupational safety, health physics, occupational medicine, epidemiology, health promotion and wellness, program evaluation and risk management. Practice issues, current research and methods are covered.

**EHOH 6635 | Climate Change and Health | 3 Credits | Campus: AMC – Fall (Prereq: EHOH 6614)**

This course will study the potential health impacts of climate change with an emphasis on understanding the state of the science, and developing skills to identify vulnerable populations, evaluate climate adaptation and mitigation measures and communicate with stakeholders.
EHOH 6670 | Occupational and Environmental Health Interdisciplinary Symposium | 2 Credits | Campus: AMC – Spring

This course is a multidisciplinary field experience for students to explore specific occupational and environmental health topics of interest in greater depth than introductory courses with more didactic formats. The goal is to develop the ability to apply principles and knowledge gained in the occupational and environmental health curriculum to evaluate and address complex health issues through multidisciplinary interactions and guidance from a faculty mentor.

EHOH 6710 | Disasters, Climate Change and Health | 3 Credits | Campus: UCD – Spring

This course provides a review of the impacts of all types of disasters and climate change on human health using a broad framework of preparedness, mitigation, response and recovery with an emphasis on vulnerability and adaptation.

EPIID 6624 | Public Health Surveillance | 2 Credits | Campus: AMC – Spring (odd yrs)

This course focuses on characteristics, development, uses and evaluation of major public health surveillance systems. History, goals, public health authority, analysis, interpretation, dissemination and privacy issues are covered. Key surveillance systems are explored.

EPIID 6626 | Research Methods in Epidemiology | 3 Credits | Campus: AMC – Spring (Prereq: BIOS 6601, BIOS 6680, EPIID 6630)

Principles, concepts and methods for conducting ethical, valid and scientifically correct observational studies in epidemiological research are the focus of this course. Lectures and practical experience reinforce hypothesis formulation, study design, data collection and management, analysis and publication strategies.

EPIID 6630 | Epidemiology | 3 Credits | Campus: AMC – Fall, Spring

This course is an introduction to approaches/methods used in describing the natural history of disease in the community and for locating clues to causes of disease and analytical epidemiology used in the study of disease etiology and critical review of the public health literature.
**GEOG 5100 | Spatial Methods for Health and Population Research | 3 Credits | Campus: UCB – Fall**

This seminar surveys current topics in health and population research with a focus on spatial statistical methods such as spatial regression, geographically weighted regression, multilevel modeling and cluster analysis. The course reviews the broad field of spatial data analysis and the range of issues that arise when analyzing georeferenced data.

**HSMP 6601 | Introduction to Health Systems and Management | 3 Credits | Campus: AMC – Spring, Summer**

Students are introduced to basic components of current health care system and basic economic principles as applied to selected aspects of the health care system.

**PUAD 5450 | Law of All Hazards Management | 3 Credits | Campus: UCD – Fall**

This course conveys knowledge of the statutes, regulations and court decisions governing the management of hazards by governmental agencies. It covers local, state and federal agencies as they mitigate, prepare for, respond to and recover from naturally, accidentally and intentionally caused disasters.

**PUAD 5631 | Environmental Politics and Policy | 3 Credits | Campus: UCD – Fall**

This course examines the fundamental principles of politics and policy that shape strategies of environmental protection. It focuses on the role of institutional processes, government organizations and nongovernmental organizations in environmental politics and policy.

**PUAD 5633 | Natural Resource and Environmental Health Law | 3 Credit | Campus: UCD – Fall**

This course examines administrative law aspects of environmental policy implementation and enforcement, the role of courts in both stimulating and limiting statutory reform and regulatory innovation. It focuses on the legal aspects of both natural resource allocation and resolution.

**PUAD 5650 | Disaster Management and Policy | 3 Credit | Campus: UCD – Spring**

This course examines policies for the management for hazards, emergencies and disasters. It focuses on a series of case studies concerning major disasters and on management principles drawn from those cases. It examines the role of institutional processes, government organizations and nongovernmental organizations in emergency management.
PUBH 6600 | Foundations in Public Health | 2 Credits | Campus: AMC – Fall, Spring, Summer

This course examines the historical and conceptual bases of public health, the key issues and problems faced by the public health system, and the tools available for the protection and enhancement of the public’s health.

URPL 5501 | Planning Issues and Processes | 3 Credits | Campus: UCD – Fall

This course provides an overview of planning history and theory. The philosophical, political and economic roots of the various theories are discussed. Ideas are placed in the context of the planning professional’s history and its present aims, interests and ethics. A complete list of courses can be found at: http://www.ucdenver.edu/academics/colleges/PublicHealth/Academics/academics/Pages/CoursesRegistration.aspx

Practicum and Capstone

- Public health experience outside the classroom
- Work with preceptor in practice setting
- At least 120 hours
- Two credits
- Requires approval of Preceptor and Concentration Director or Academic Advisor


Contact: Jan Gascoigne, Practicum Director
jan.gascoigne@ucdenver.edu
**Capstone**

<table>
<thead>
<tr>
<th>Two Options:</th>
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<tbody>
<tr>
<td>• Capstone project (one credit for project, one credit for Capstone activities); concrete product, often a continuation of Practicum</td>
</tr>
<tr>
<td>• Publishable research paper (less common; requires three Research Paper credits, with two taken from the nine “free” electives, and one credit for Capstone activities)</td>
</tr>
</tbody>
</table>

**Capstone Activities:**

| • Oral presentation at Public Health Forum |
| • Poster presentation at Public Health Forum |
| • Final report that describes the project in more detail |

**Capstone Project Proposal:**

[http://www.ucdenver.edu/academics/colleges/PublicHealth/resourcesfor/currentstudents/academics/Pages/Forms.aspx](http://www.ucdenver.edu/academics/colleges/PublicHealth/resourcesfor/currentstudents/academics/Pages/Forms.aspx) (Capstone Project Proposal Fall 2015)

| • Requires approval of Academic Advisor and registration code from Capstone Faculty |

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**EOH Contacts**

| Alison Bauer, EOH Concentration Director |
| Alison.Bauer@ucdenver.edu |
| Lanee Bounds, EOH Department Administrator |
| Lanee.Bounds@ucdenver.edu |

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**Social Media**

**Facebook**

Now that you are an Environmental and Occupational Health student, be sure to like our Facebook page!


The EOH Facebook page is a great way to network and stay up to date on current events within our department as well as EOH news abroad! Give us a like!

**Linked In**

Please join the Colorado School of Public Health on Linked in at:

[https://www.linkedin.com/edu/school?id=163120&trk=edu-up-nav-menu-home](https://www.linkedin.com/edu/school?id=163120&trk=edu-up-nav-menu-home)