Occupational and Environmental Health Sciences

Degrees Offered:

- MPH in Occupational and Environmental Health Sciences
- Ph.D. in Occupational and Environmental Health Sciences

MPH DEGREE IN OCCUPATIONAL AND ENVIRONMENTAL HEALTH SCIENCES

The MPH degree in occupational and environmental health sciences provides students with the practical skills needed to solve occupational and environmental health problems. Students will focus on understanding occupational and environmental processes and their effects on humankind and developing the skills needed to assess and address their health consequences. Both the internship and practicum have been designed to place students in settings in which they can apply their newly acquired knowledge and skills and continue to learn from professionals in their field while working on current, relevant public health problems.

The MPH degree in occupational and environmental health sciences is designed to meet the following occupational and environmental health sciences’ competencies:

- Judge the precision and accuracy of methods for quantifying environmental agents
- Understand the routes of entry of environmental agents into the body and how those routes affect toxicity
- Provide management expertise for planning and carrying out disaster preparation
- Determine the relevance of toxicological and epidemiologic data for regulatory use and integrate scientific, regulatory, and social information for risk communication
- Design approaches for achieving environmental sustainability in communities and industry
- Integrate multiple data sources to determine the underlying causes of injury
- Understand the role of genetics in mediating host susceptibility to disease

Upon completion of the MPH in occupational and environmental health sciences, students will be prepared to either continue their graduate education at the doctoral level or begin a career as consultants, managers, and leaders in public health practice, research settings, government, or industry, addressing such issues as environmental pollution related to air, water, and waste, occupational health hazards, and work-related injury. The MPH degree is ideal for recent college graduates or early to mid-career public health professionals seeking to develop or advance their current careers.

Ph.D. in Occupational and Environmental Health Sciences

http://publichealth.hsc.wvu.edu/oehs/

The Ph.D. in Public Health Sciences in occupational and environmental health is a degree for scientist-practitioners in the area of prevention of premature mortality, morbidity, and disability resulting from occupational and environmental exposures, communicable and chronic disease, and injury. This degree emphasizes both evidence-based primary prevention of disease and injury and health promotion research and practice. Students completing this degree will have the necessary theoretical knowledge and critical understanding of occupational and environmental health problems, including analytical and methodological research skills, to investigate, evaluate, and find solutions to public health challenges.

The Department of Occupational and Environmental Sciences has a close collaboration with the National Institute of Occupational Safety and Health (NIOSH), which shares our Health Sciences campus in Morgantown. Collaborating NIOSH faculty add important enrichment and mentorship potential for the interested student.

Upon graduation, students in the Ph.D. in Public Health Sciences program from the Department of Occupational and Environmental Health Sciences will have the following core competencies:

- Analyze issues and problems in occupational and environmental health and safety using critical evaluation, applied research methodology, and statistical methods
- Characterize the human health effects of major environmental and occupational hazards, both acute and chronic, including: air pollution, contamination of drinking water, and physical hazards
- Analyze sources, pathways, and routes of exposure to environmental and occupational hazards and identify populations at high risk of exposure and communicate that risk effectively
- Create programs that protect the environment using proven technologies and novel approaches
- Evaluate the management of occupational and environmental problems and develop long and short term goals for reducing or eliminating their impact
FACULTY
INTERIM CHAIR
• Michael McCawley - Ph.D. (New York University)

PROFESSOR
• Alan Ducatman - MSc (City University of New York)

ASSOCIATE PROFESSOR
• Lan Guo - Ph.D. (West Virginia University)
• Charles L. Werntz III - DO (Kirksville College of Osteopathic Medicine)

ASSISTANT PROFESSORS
• Rachel T. Abraham - MD, MPH (Emory University)
• Anna Allen - DO, MPH (West Virginia University)
• Travis Knuckles - Ph.D. (North Carolina State)
• Douglas Myers - ScD (University of Massachusetts)
• Kimberly Rauscher - ScD (University of Massachusetts at Lowell)

RESEARCH PROFESSOR
• Mike Luster - Ph.D. (Loyola University of Chicago)

LECTURER
• Doug Boyer - Ph.D. (West Virginia University)

Admission Guidelines (MPH In Occupational and Environmental Health Sciences)

• Baccalaureate degree from an accredited college or university with a preferred overall GPA of 3.0
• GRE scores of 150 (verbal), 147 (quantitative), 3.0 (analytical writing)
• TOEFL scores (minimum 550 paper-based) (minimum 213 computer-based) International Students Only

MPH Applicants (Fall Admissions Only)

If you are ready to apply to West Virginia University School of Public Health, the admissions team is here to assist you. Our MPH Program is CEPH-accredited, and our new School of Public Health is transitioning to be a CEPH-accredited school of public health as well.

WVU participates in the Schools of Public Health Application Service (SOPHAS). Our MPH Admissions is a two-step process. All MPH applications must be submitted through the national SOPHAS service and applicants must also submit a WVU Graduate application.

In addition to the general application, applicants must submit to SOPHAS a statement of purpose and objectives, official GRE test scores, three letters of reference, a current resume/curriculum vitae, and all university transcripts. SOPHAS requires original transcripts from all U.S. institutions attended. (Including Study Abroad) Please see each Major’s website for additional application requirements.

There is a $120 SOPHAS application fee. Applicants must indicate their first choice of MPH major, and may also indicate a second choice. A maximum of two choices is allowed.

• E-submit your application as soon as the applicant entered information is complete. Do NOT wait for SOPHAS to receive transcripts, recommendations or test scores.
• Plan Ahead! Allow up to 4 weeks for SOPHAS to verify grades, process, and mail your application to your designated institutions after your documents have been received.
• SOPHAS grants fee waivers based upon financial need for Peace Corps Volunteers, McNair Scholars, Gates Millennium Scholars Program, AmeriCorps, U.S. and International applicants.

Completed applications will be reviewed by the department. Students will receive a communication from the WVU School of Public Health regarding their recommendation for acceptance and instructions to complete the WVU graduate application and pay the $60.00 WVU application fee.

Admission decisions to the West Virginia School of Public Health are conducted in two rounds. Fully completed SOPHAS applications received by April 15 will be considered first. Incomplete applications and new fully completed applications received by June 1 will be considered for those degree
programs/concentrations that have openings after the April 15 decisions. Applicants are strongly encouraged to submit their completed applications by the April 15 deadline in order to be considered during the first round.

Important: When sending GRE scores for consideration for admission to WVU, please use the WVU School of Public Health College GRE code: 0157. This code MUST be used, otherwise your GRE score will not be reported to SOPHAS and your application will be incomplete. Incomplete applications cannot be reviewed for an admissions decision. [Each program at West Virginia University has a specific code]

All other degrees and certificate programs will use the WVU application system.

**Admission Guidelines for the Ph.D.**

- Baccalaureate degree from an accredited college or university with some background in science (preferred GPA: 3.0 overall)
- GRE scores of: Verbal: sixtieth percentile or greater; Quantitative: fiftieth percentile or greater;
  - or, a combined score of twenty-four or higher on the MCAT, with nine or higher in verbal;
  - or, a terminal degree
- A completed Ph.D. application, including a Statement of Purpose (see below for details)
- Three letters of recommendation

**Statement of Purpose**

The essay is a critical piece of the admissions process. We will evaluate both the content of the essay and your writing skills in considering your application. All applicants should write an essay of 600 words or less. In this essay, please address the following questions:

- What is it about Occupational and Environmental Health Sciences (OEHS) that appeals to you?
- What have you done to prepare yourself for training in OEHS?
- How will you use your training in OEHS?
- What area(s) within OEHS do you wish to emphasize and why?
- Applicants should also include any additional information about their interests, prior background, or special circumstances which may be helpful to the Admissions Committee in evaluation of the application.

Students interested in applying for the Ph.D. in occupational and environmental health must:

- Complete the WVU graduate application and submit with the processing fee
- Submit official school transcripts and official GRE scores to:

  WVU Office of Admissions
  PO Box 6009
  Morgantown, WV 26506-6009
  (304) 293-2121

  - Complete the Ph.D. application online and indicate occupational and environmental health as your preference: http://www.hsc.wvu.edu/resoff/hscresoff/publichealth/phapp.asp
  - Submit three academic letters of recommendation and CV/Resume

You must mail your completed recommendation letters and CV/Resume to:

WVU School of Public Health
Ph.D. Admissions
PO Box 9190
One Medical Center Drive
Morgantown, WV 26506

**Fall Admissions Only:** Fully completed applications received by February 15 are considered.

**Overview of MPH in Occupational and Environmental Health Sciences Curriculum**

Students in the MPH program in occupational and environmental health sciences will complete a total of forty-three credit hours (sixteen credit hours of School of Public Health core courses, two credit hours of seminar, fifteen credit hours of departmental required courses, and nine credit hours of elective courses). Students have two options for the culminating experience, usually completed during the last year of the program. These options are: a) the
internship (six credit hours) or b) the proposal and practicum (six credit hours). Both options require a paper and poster. This degree will typically take four semesters to complete.

DEPARTMENT OF OEHS MASTER LEVEL COURSES

MPH Core Curriculum:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOS 601</td>
<td>Applied Biostatistics 1</td>
<td>3</td>
</tr>
<tr>
<td>BIOS 602</td>
<td>Applied Biostatistics Lab</td>
<td>1</td>
</tr>
<tr>
<td>EPID 601</td>
<td>Public Health Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>HPML 601</td>
<td>Foundations of Health Policy</td>
<td>3</td>
</tr>
<tr>
<td>OEHS 601</td>
<td>Environmental Health</td>
<td>3</td>
</tr>
<tr>
<td>PUBH 696</td>
<td>Graduate Seminar</td>
<td>1</td>
</tr>
<tr>
<td>SBHS 601</td>
<td>Social and Behavioral Theory</td>
<td>3</td>
</tr>
</tbody>
</table>

Concentration Curriculum:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>OEHS 610</td>
<td>Environmental Practice</td>
<td>3</td>
</tr>
<tr>
<td>OEHS 622</td>
<td>Public Health Toxicology</td>
<td>3</td>
</tr>
<tr>
<td>OEHS 696</td>
<td>Graduate Seminar</td>
<td>1</td>
</tr>
</tbody>
</table>

Practice Based/Culminating Experiences:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUBH 622</td>
<td>MPH Practice-Based Experience</td>
<td>3</td>
</tr>
<tr>
<td>OEHS 629</td>
<td>Capstone</td>
<td>1</td>
</tr>
</tbody>
</table>

Electives (6 hours):

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>OEHS 630</td>
<td>Public Health Biology</td>
<td>3</td>
</tr>
<tr>
<td>OEHS 665</td>
<td>Worksite Evaluation</td>
<td>2</td>
</tr>
<tr>
<td>OEHS 691</td>
<td>Advanced Topics (subject matter changes)</td>
<td>varies</td>
</tr>
<tr>
<td>OEHS 626</td>
<td>Internship</td>
<td>1-6</td>
</tr>
</tbody>
</table>

Total Hours: 40-45

The MPH curriculum is designed so that students have a broad exposure to the core disciplines in public health and an introduction to occupational and environmental sciences in the first year of the program. An internship or proposal/practicum is required in the second year of study. The degree would typically take two years to complete. A minimum of forty-three credit hours are required for the MPH in occupational and environmental health sciences. Students complete eighteen credit hours of School of Public Health core courses, sixteen credit hours of departmental required courses, and nine credit hours of electives.

SUGGESTED PLAN OF STUDY

First Year

<table>
<thead>
<tr>
<th>Year</th>
<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
<th>Hours</th>
<th>Summer</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>12</td>
<td></td>
<td>12</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>EPID 601</td>
<td>3</td>
<td>OEHS 610</td>
<td>3</td>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>BIOS 601</td>
<td>3</td>
<td>OEHS 622</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BIOS 602</td>
<td>1</td>
<td>PUBH 696</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>OEHS 601</td>
<td>3</td>
<td>SBHS 601</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PUBH 696</td>
<td>1</td>
<td>Elective (Optional)</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HPML 601</td>
<td>3</td>
<td></td>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>14</td>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Year</th>
<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IENG 561</td>
<td>3</td>
<td>OEHS 626</td>
<td>1-6</td>
</tr>
<tr>
<td></td>
<td>Electives</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>15</td>
<td></td>
<td>1-6</td>
</tr>
</tbody>
</table>

Total credit hours: 40-45

PRACTICE-BASED/CULMINATING EXPERIENCE OPTIONS

Practice-based Experience: It is six credits, which translates to 360 hours of work, and has been designed to place students in occupational or environmental settings to further develop and apply their newly acquired knowledge and skills in a way that addresses real-world problems. The nature
of the practice-based experience is dependent on the student and opportunities. An appropriate practice-based experience could include a local health department, a rural healthcare facility, an industrial plant, or an agency of the state or federal government.

The purpose of the practice-based experience is to provide experience in most, if not all, of the listed competencies for this degree. A primary focus of all these experiences is to provide skill building and practical experience in an environmental or occupational health setting. Development and application of analytical skills is emphasized; these skills may include a collection or data analysis of an exposure database, formulation of control measures, or oversight of public environmental activities.

With the guidance of a faculty mentor from the Department of Occupational and Environmental Health Sciences, as well as a preceptor at the location of the internship and the SPH Internship Coordinator, students will be expected to participate in a meaningful way. They will work with their academic team to identify a relevant problem and then develop and conduct an analysis and evaluation of that problem or acquire a new skill such as exposure assessment, on which they will be evaluated. Students will be required to present their findings to an appropriate audience of practice-based related professionals in a poster presentation.

The MPH degree will be awarded based on successful completion of all academic requirements and demonstrated achievement of competencies. The department chair using a faculty panel will review competency performance evidence and based on the evidence reviewed, determine if the student has achieved the expected competencies. If a determination is made that competencies have not been achieved, the department chair will inform the student what must be accomplished to demonstrate achievement and therefore be recommended for awarding of the MPH degree. This may include taking additional courses.

Overview of Occupational and Environmental Health Sciences Ph.D.

The Ph.D. in Public Health Sciences in occupational and environmental health is a degree for scientist-practitioners in the area of prevention of premature mortality, morbidity, and disability resulting from occupational and environmental exposures, communicable and chronic disease, and injury. This degree emphasizes both evidence-based primary prevention of disease and injury, as well as health promotion research and practice. Students completing this degree will have the necessary theoretical knowledge and critical understanding of occupational and environmental health problems, including analytical and methodological research skills, to investigate, evaluate, and find solutions to public health challenges.

The Department of Occupational and Environmental Sciences has a close collaboration with the National Institute of Occupational Safety and Health (NIOSH), which shares our Health Sciences campus in Morgantown. Collaborating NIOSH faculty add important enrichment and mentorship potential for the interested student.

PH.D. IN OEHS COMPETENCIES

- Analyze issues and problems in occupational and environmental health and safety using critical evaluation, applied research methodology, and statistical methods
- Characterize the human health effects of major environmental and occupational hazards, both acute and chronic, including: air pollution, contamination of drinking water, and physical hazards
- Analyze sources, pathways, and routes of exposure to environmental and occupational hazards, identify populations at high risk of exposure, and communicate that risk effectively
- Create programs that protect the environment using proven technologies and novel approaches
- Evaluate the management of occupational and environmental problems and develop long and short term goals for reducing or eliminating their impact

CURRICULUM

Students in the Ph.D. in Public Health Sciences program in occupational and environmental health sciences will complete a total of 118 credits hours, of which fifty-eight are dedicated toward research. The last two years will largely be dedicated to dissertation research; however, after qualifying exams, during the dissertation period, students will also engage in teaching practicum (to be determined by the student’s departmental advisor). The dissertation requires a minimum of three published articles with an integrative summary.

The OEHS Department does not require students to pick a track or concentration. Rather, students are encouraged to design their own program of electives. Students interested in a variety of topics may choose with the permission of their advisor to take a mix of electives. The choice to focus or mix electives is up to the student and his/her advisor. In addition to their coursework, Ph.D. students will be required to complete HIPAA and Lab Environment training provided by the university.

OCCUPATIONAL AND ENVIRONMENTAL HEALTH SCIENCES REQUIRED COURSES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>OEHS 601</td>
<td>Environmental Health</td>
<td>3</td>
</tr>
<tr>
<td>OEHS course - Occupational and Environmental Hazard Assessment</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>OEHS 732</td>
<td>Occupational Injury Prevention</td>
<td>3</td>
</tr>
<tr>
<td>EPID 745</td>
<td>Epigenetics/Systems Biology</td>
<td>3</td>
</tr>
<tr>
<td>OEHS 796</td>
<td>Graduate Seminar</td>
<td>1</td>
</tr>
</tbody>
</table>
### Electives

Students will complete a minimum of fifteen credit hours of electives during their Ph.D. program. These may be selected from among the department’s, School of Public Health’s, or university’s many course offerings. These courses will be discussed and approved with the faculty advisor.

### Teaching Practicums

Students will spend two semesters in a mentored relationship with a faculty member, assisting with the implementation of a course.

### Comprehensive Exams

The Qualifying Examination is the capstone experience for Ph.D. program coursework. Successful completion of the examination signifies competence in the field of public health sciences and indicates readiness to engage in independent research. The Qualifying Examination consists of both a written and oral component. Qualifying exams should not include testing on content of the dissertation. The oral defense of the dissertation proposal will serve that purpose. The Qualifying Examination is planned and administered by the five-member dissertation committee, under the direction of the committee chairperson. If necessary and at the discretion of the Program Director, another faculty member may be appointed to serve on the committee.

The oral portion of the exam may not be attempted until the written component is completed and must be attempted within two academic weeks of the written component. Students are expected to take the qualifying exam during the summer sessions between their fourth and fifth academic semesters. However, the written component must be completed no later than the second week in July. Students are not eligible to begin their dissertation, or enroll in dissertation hours, until they have successfully completed the Qualifying Examination.

### Research

Students will participate in research rotations during their first year, meeting and working with research faculty with similar interests in order to develop mentorships for dissertation research. A total of fifty-eight credit hours of rotations and dissertation research will be completed during the program.

### The Dissertation Proposal, Defense, and Approval

Although students may choose to pursue a traditional dissertation format, the majority of Ph.D. students format their dissertation using the Three Journal Article Format (JAF). The decision of which format to use is something that students should discuss with chairperson of their dissertation committee. As a reminder, students will not be allowed to defend their dissertations until they have at least one first-authored publication in any form of acceptance, based on their Ph.D. dissertation, in a peer-reviewed journal by the time of the dissertation defense. Note: This required publication does not necessarily need to be one of the three articles generated through the JAF dissertation format.

### Suggested Plan of Study

<table>
<thead>
<tr>
<th>First Year</th>
<th>Fall</th>
<th>Hours Spring</th>
<th>Hours Summer</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPID 601</td>
<td></td>
<td>3 HPML 601</td>
<td>3 BMS 720</td>
<td>2</td>
</tr>
<tr>
<td>BIOS 601</td>
<td></td>
<td>3 SBHS 601</td>
<td>3 OEHS 797</td>
<td>2</td>
</tr>
<tr>
<td>BIOS 602</td>
<td></td>
<td>1 BIOS 603</td>
<td>3 Elective</td>
<td>3</td>
</tr>
<tr>
<td>OEHS 601</td>
<td></td>
<td>3 OEHS 797</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>OEHS 732</td>
<td></td>
<td>3 SBHS 701</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>
BMS 700 1 Elective 3
OEHS 797 1 15 16 7

Second Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
<th>Hours</th>
<th>Summer</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPID 769</td>
<td>3 Elective</td>
<td>6 OEHS 797</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPID 745</td>
<td>3 Elective</td>
<td>3 Dissertation Proposal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OEHS 797</td>
<td>3 OEHS 797 - Research</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PUBH 793 - Special Topics (subject matter changes)</td>
<td>1 Elective</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>3 Qualifying Exam</td>
<td></td>
<td>13</td>
<td>16</td>
<td>6</td>
</tr>
</tbody>
</table>

Third Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
<th>Hours</th>
<th>Summer</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUBH 790</td>
<td>1 PUBH 790</td>
<td>1 OEHS 797</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OEHS 797</td>
<td>8 OEHS 797</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proposal Defense</td>
<td></td>
<td></td>
<td>9</td>
<td>11</td>
<td>6</td>
</tr>
</tbody>
</table>

Fourth Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>OEHS 796</td>
<td>1 OEHS 797</td>
</tr>
<tr>
<td>OEHS 797</td>
<td>9</td>
</tr>
</tbody>
</table>

Total credit hours: 118

COURSES

OEHS 601. Environmental Health. 3 Hours.
A review of issues illustrating responsibilities and roles of public health work force in identifying, managing and preventing casualties from environmental causes in air, water, soil, food, pesticides, and related subjects. WV policy dilemmas.

OEHS 610. Environmental Practice. 3 Hours.
The course involves application of Public Health principles to the planning and operation of drinking water, sewage disposal, solid and hazardous waste management, air pollution and general community sanitation.

OEHS 620. Occpntl/Envrnmntl Hzrd Asmnt. 4 Hours.
Lecture and laboratory experience to understand occupational and environmental hazards related to the workplace. Principles from chemistry, physics and biology are used to quantify exposures. This course provides an overview of various industrial hygiene concepts.

OEHS 622. Public Health Toxicology. 3 Hours.
This interdisciplinary course will survey the principles of toxicology that pertain to human health and the environment, and the integration of these principles into public health practice.

OEHS 623. Occupational Injury Prevention. 3 Hours.
This course introduces students to the problems of occupational injury. It covers the epidemiology of occupational injury and provides a critical perspective on injury causation and the strategies used to prevent occupational injury. This course is also listed as OEHS 732 - students may not count both toward degree requirements.

OEHS 626. Internship. 1-6 Hours.
PR: Consent. (May be repeated for a maximum of 6 credit hours.) The internship provides students the opportunity to develop their practical skills and enhance professional competencies by applying the knowledge and techniques gained from their MPH coursework to public health practice.

OEHS 629. Capstone. 1 Hour.
PR: PUBH 622. This course is the culminating experience for OEHS Master’s students through which they will demonstrate their ability to integrate and synthesize the MPH and OEHS competencies in relation to the occupational/environmental public health problem on which their Practice-based Experience (PBE) was focused.

OEHS 630. Public Health Biology. 3 Hours.
This course will provide students with a fundamental understanding of Public Health Biology, which comprises a wide range of concepts including: human physiology, infectious and non-infectious disease, mechanisms of disease pathology, toxicology, and population health disparities. The students will learn underlying and advanced knowledge of human physiology and its role in public health.
OEHS 665. Worksite Evaluation. 2 Hours.
Students are introduced to health and safety hazards associated with industrial operations through in-plant inspections, interaction with plant medical and safety staff, and in-class discussions.

OEHS 691A-Z. Advanced Topics. 1-6 Hours.
PR: Consent. Investigation in advanced topics that are not covered in regularly scheduled courses.

OEHS 695. Independent Study. 1-6 Hours.
Faculty-supervised study of topics not available through regular course offerings.

OEHS 696. Graduate Seminar. 1 Hour.
PR: Consent. Each graduate student will present at least one seminar to the assembled faculty and graduate student body of his or her program.

OEHS 723. Emergency & Disaster Response. 3 Hours.
This course addresses the basics of how public health practitioners respond to disasters, develop response protocols, and perform as skillful public health leaders.

OEHS 732. Occupational Injury Prevention. 3 Hours.
This course introduces students to the problem of occupational injury. It covers the epidemiology of occupational injury and provides a critical perspective on injury causation and the strategies used to prevent occupational injury.

OEHS 733. Advanced Work Injury Analysis. 3 Hours.
This course will discuss how formal and informal aspects of work organization contribute to workplace injuries and other work-related health outcomes. A variety of social and organizational theories and perspectives will be used to illustrate how organizational factors can affect rates of work-related injury.

OEHS 734. Aerosols and Health. 3 Hours.
This course will give an understanding of the basic principles behind aerosol generation, measurement, mechanics and toxicity for aerosols found in the environment and their application to health effects caused by exposure to these aerosols.

OEHS 742. Outbreak Assessment. 3 Hours.
This course covers environmental and epidemiologic principles and concepts within the context of case studies associated with disease outbreaks.

OEHS 770. Molecular Diagnosis Public Hlt. 3 Hours.
This course gives an overview of the interdisciplinary approaches in molecular diagnosis and prognosis for personalized patient care. Knowledge of genome-wide association studies will guide hypotheses-driven experimentation and aid clinical decision-making.

OEHS 790. Teaching Practicum. 1-3 Hours.
PR: Consent. Supervised practice in college teaching of OEHS. Note: This course is intended to insure that graduate assistants are adequately prepared and supervised when they are given college teaching responsibility. It also provides a mechanism for students not on assistantships to gain teaching experience.

OEHS 796. Graduate Seminar. 1 Hour.
PR: Consent. Each graduate student will present at least one seminar to the assembled faculty and graduate student body of his or her program.

OEHS 797. Research. 1-15 Hours.
PR: Consent. Research activities leading to thesis, problem report, research paper or equivalent scholarly project, or a dissertation. (Grading will be S/U.).