

ENVIRONMENTAL HEALTH SCIENCES, PHD

The program in Environmental Health Sciences offers graduate studies leading to the doctoral degree. Faculty for this program have a diverse expertise in the environmental health sciences spanning a broad range of research domains including developmental toxicology, environmental toxicology and chemistry, and environmental epidemiology. The EHS program through its faculty, offers students an unparalleled opportunity for cross-disciplinary training in pursuit of original and cutting-edge dissertation research projects. In addition, laboratories and equipment are available across campus to help facilitate innovative research endeavors relevant to environmental health science.

When applying for admission, students should describe their interest in the field and any research preferences. Applicants are encouraged to review the research interests of the faculty and contact those faculty who are of interest.

Admission Requirements

Application Deadlines

Application deadlines vary by program, please review the application deadline chart (<http://uwm.edu/graduateschool/program-deadlines/>) for specific programs. Other important dates and deadlines can be found by using the One Stop calendars (<https://uwm.edu/onestop/dates-and-deadlines/>).

Admission

Applicants must meet Graduate School requirements (<http://uwm.edu/graduateschool/admission/>) plus the following program requirements to be considered for admission:

- A baccalaureate degree in a science discipline, including at least four laboratory courses and one statistics course.
- Submission of scores on the General Test portion of the Graduate Record Examination (<http://uwm.edu/graduateschool/admission/#gre>); test taken within last five years.
- Submission of at least three letters of recommendation from persons familiar with the applicant's scholarship, research achievements and potential.

For students entering with an advanced degree, credit may be given for relevant coursework at the discretion of the Admissions Committee.

Reapplication

A student who receives the Master of Public Health degree must formally reapply to the Zilber School of Public Health to gain admission to the PhD program in Public Health before continuing studies toward the PhD.

Credits and Courses

The PhD in Environmental Health Sciences requires 65 credits beyond the bachelor's degree. In addition to the PhD Common Core Coursework, credits include required concentration coursework (17 credits), electives (at least 12 credits), and the remaining credits taken as research.

Code	Title	Credits
PhD Common Core		12
PH 801	Seminar in Public Health Research	

PH 819	Social and Environmental Justice in Public Health	
or PH 859	Racial/Ethnic Health Disparities in the United States	
PH 704	Principles and Methods of Epidemiology	
PH 711	Intermediate Biostatistics *	
EHS Concentration Requirements		17
PH 705	Principles of Public Health Policy and Administration	
PH 743	Environmental Risk Assessment	
PH 750	Seminar in Environmental Health Sciences (Subtitled)	
PH 821	Advanced Survey of Environmental Health	
PH 822	Molecular & Cellular Basis of Environmental Disease	
PH 808	Writing a Federal Grant in the Public Health Sciences	
Electives (see table below)		12
Research		24
Total Credits		65

Electives are divided into three categories (molecular, organismal, and population/environment). It is recommended that the student take courses relevant to their research in consultation with the major professor. As the Zilber School's programmatic offerings grow and diversity, additional PH courses may be approved by the EHS faculty for inclusion as potential elective options.

Molecular Level Electives

Code	Title	Credits
PH 775	Mechanisms of Infectious Disease	2
BIO SCI 529	Molecular Biology of Microorganisms	3
BIO SCI 540	Microbial Diversity and Physiology	3
BIO SCI 564	Endocrinology	3
CHEM 601	Biochemistry: Protein Structure and Function	3
CHEM 602	Biochemistry: Cellular Processes	3
CHEM 604	Biochemistry: Metabolism	3
BMS 590	Topics in Clinical Laboratory Sciences: (Public Health Nutrition and Food Politics)	1-5
BMS 615	Cellular and Molecular Toxicology	3

Organismal Level Electives

Code	Title	Credits
PH 745	Developmental Toxicology	3
BIO SCI 401	Immunology	3
IND ENG 580	Ergonomics	3
IND ENG 780	Advanced Ergonomics - Low Back Pain	3
IND ENG 783	Advanced Ergonomics - Upper Extremity	3

Population Level Electives

Code	Title	Credits
PH 709	Public Health Informatics	3
PH 721	Introduction to Translational Bioinformatics	3
PH 741	Environmental Public Health Microbiology	3
PH 762	Environmental Epidemiology	3
URBPLAN 662	Public Sector Influence on Real Estate Development	3
URBPLAN 771	Transportation Policy and Planning	3
URBPLAN 791	Introduction to Urban Geographic Information Systems for Planning	3
URBPLAN 792	Using Urban Geographic Information Systems (GIS) for Planning	3
URBPLAN 794	Internet Geographic Information Systems (GIS)	3
GEOG 520	Physical Geography of the City	3
FRSHWTR 506	Environmental Health of Freshwater Ecosystems	3
IND ENG 786	Applied Biostatistics in Ergonomics	3
GEOG 880	Urban Sustainability	3
GEOG 945	The Internal Structure of the City	3

Additional Requirements

Major Professor as Advisor

As specified in Graduate School regulations, each student in the EHS PhD program must have a major professor to advise and supervise his or her studies. Upon admission, the student is assigned a temporary advisor; however, a permanent advisor must be selected during the spring of the first year of study. The major professor serves as the student's research mentor and will guide the student in course selection and research design. During the spring of the first year in the program, the student should form an academic advisory committee which is to consist of the student's advisor and two faculty members from within the Joseph J. Zilber School of Public Health.

Residence

The student must complete 8 to 12 graduate credits in each of two consecutive semesters, or 6 or more graduate credits in each of three consecutive semesters, exclusive of summer sessions. Residence requirements cannot be met at the master's level.

PhD Advisory Committee

The student, in consultation with the Major Professor, will select four additional members to form a PhD Advisory Committee. A minimum of three committee members must be EHS program faculty. See the Graduate School Doctoral Requirements (<http://uwm.edu/graduateschool/doctoral-requirements/>) page for more information on the doctoral committee.

Doctoral Qualifying Exam

During the end of the second semester of enrollment, the student is required to pass a brief qualifying exam. The duration of this exam is to be no longer than 90 minutes. The student will give an oral synopsis/self-evaluation of his/her first year in the program describing highlights from his/her coursework. The academic advisory committee will evaluate if the student has demonstrated a knowledge base in Public Health that was to be firmly established in the first year of coursework. The academic

advisory committee in conjunction with the student will also map out the remaining coursework that needs to be completed by the end of the third of year in the program. Students failing this important first exam will not be allowed to continue in the program and will forfeit their TAsip, PAsip, or RAsip if applicable.

Doctoral Preliminary Examination

This examination must be taken no later than the end of the third year of study. In order to take the preliminary exam, all formal coursework must be completed with a cumulative GPA of 3.0 or higher. The preliminary examination consists of both written and oral components. The oral portion of the examination is broken into two subparts. The (proposal phase) will consist of the student presenting his/her dissertation proposal to the examining committee. In the "General Public Health Knowledge Phase" of the preliminary examination, the student will be evaluated (via oral questioning) by the academic advisory /doctoral advisory committee to determine if the student has truly acquired Public Health competencies which should have been acquired by completion of the formal coursework in the EHS PhD program. A student who fails the doctoral preliminary examination will be dismissed from the program.

Dissertator Status

Specific requirements which must be completed before a doctoral student qualifies for dissertator status are described on the Graduate School Doctoral Requirements page.

Dissertation

Doctoral students should be aware that the research component is extremely important and requires significant time allocation. A full-time commitment is required to complete this critical component of the degree. Successful doctoral students in our EHS program should anticipate working long hours, including on weekends, winter intersession and summer months. Students are also expected to enroll in, and successfully complete research credit. Six or more of these research credits must be obtained at the level of dissertator.

All successful doctoral students must prepare and successfully defend a dissertation reporting the results of their research. A full time student who does not pass the dissertation defense within six years of admission may be required to take another preliminary examination and be readmitted to the program.

Time Limit

The student must complete all requirements for the degree within 10 years of the date of initial enrollment in the program.