

# Occupational and Environmental Health Sciences, Ph.D.

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## Degrees Offered

- Doctor of Philosophy

## Nature of the Program

### PH.D. IN PUBLIC HEALTH SCIENCES (OCCUPATIONAL AND ENVIRONMENTAL HEALTH SCIENCES MAJOR)

The Ph.D. in Public Health Sciences, Occupational and Environmental Health Major, 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. To this end, students should expect rigorous course work and training typical of a Ph.D. program.

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.

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## FACULTY

### CHAIR

- Weimin Gao - PhD (University of Pittsburgh)

### PROFESSORS

- Sergio Caporali Filho - PhD (West Virginia University)
- Lan Guo - PhD (West Virginia University)
- Christopher Martin - MD (Memorial University of Newfoundland)

### ASSOCIATE PROFESSORS

- Robert Gerbo - MD (West Virginia University)
- Chuanfang Jin - MD (Shanxi Medical University)

### CLINICAL ASSOCIATE PROFESSOR

- Michael McCawley - PhD (New York University)

### ASSISTANT PROFESSORS

- Travis Knuckles - PhD (North Carolina State University)
- Jennifer Lultschik - MD (University of Toronto Faculty of Medicine)

### LECTURER

- Doug Boyer - PhD (West Virginia University)

### EMERITUS

- Rachel T. Abraham - MD, MPH (Emory University)
- Alan Ducatman - MD, MSc (City University of New York)

## Admissions

If you are ready to apply to the West Virginia University School of Public Health, the admissions team is here to assist you.

## DOCTOR OF PHILOSOPHY (PH.D.) IN PUBLIC HEALTH SCIENCES (OCCUPATIONAL AND ENVIRONMENTAL HEALTH SCIENCES MAJOR)

### ADMISSION GUIDELINES

- A Master's degree in Public Health or a closely related field is strongly preferred. Exceptional applicants with a Bachelor's degree in a relevant field may also be considered.
- A minimum GPA of 3.0 is required, 3.5 is preferred.
- The following GRE scores are preferred: Verbal 150; Quantitative 155; and Writing 3.5. Submission of GRE scores are optional. Applicants may submit GRE scores if they feel that scores enhance their application.
- International students must meet WVU's minimum score requirements for English language proficiency. (<https://graduateadmissions.wvu.edu/information-for/international-students/>)

### APPLICATION PROCESS

Applying to the Ph.D. program is a two-step process in which prospective students first submit an application through the national SOPHAS service, <http://www.sophas.org/>. If you are accepted into the PhD program by the School, the next step is for you to complete a WVU Graduate Application, <https://graduateadmissions.wvu.edu/>.

The SOPHAS application requires:

- Official test scores
- Official transcripts from all US institutions attended
- A Personal Statement
- 3 Letters of Recommendation
- Current CV/Resume

Applicants must indicate their first choice of Major and may indicate a second choice (you are allowed a maximum of two choices).

There is a SOPHAS application fee. However, SOPHAS grants fee waivers based upon financial need for McNair Scholars, Gates Millennium Scholars, as well as for AmeriCorps and Peace Corps Volunteers.

TIPS for completing the SOPHAS application:

- **APPLY EARLY!** Allow up to 4 weeks for SOPHAS to verify your transcripts and test scores and send them to the Universities to which you have applied. *Your application may not be reviewed if it does not contain verified transcripts and test scores.*
- *If opting to submit your GRE scores, be sure to use the college code 0157 for the WVU School of Public Health. This code MUST be used so that verified scores are sent by SOPHAS to the WVU School of Public Health for review.*
- Submit your application once you have provided the required information. **DO NOT** wait for SOPHAS to receive transcripts, recommendations or test scores prior to submitting your application.

### Personal Statement

The Personal Statement is a critical piece of the application. The content of the Statement and the applicant's writing skills will be evaluated in the admissions decision. The Statement should address the following in no more than 1000 words:

- What is it about Public Health that interests you?
- What is it about your selected major, specifically, that interests you?
- What are your career goals?
- What topics or areas of research do you wish to pursue and why? If you have identified a potential dissertation topic, briefly describe that as well.
- Which faculty members in the SPH do you see as being potential mentors to help you succeed in your area of interest?

Applicants should also include any additional information about their interests, background, prior experience, or special circumstances that may be helpful to the SPH Admissions Committee.

### Letters of Recommendation

Three letters of recommendation are required. At least two of these should be from people who can attest to your academic abilities.

### Deadlines

**Please refer to SOPHAS for the current deadline.** Applications received after this deadline will not be considered. All admissions are for the Fall semester. We do not admit students into the Ph.D. program in the Spring or Summer semesters.

## Review process

All completed and verified SOPHAS applications are first reviewed by the Admissions Committees of the major to which an applicant has applied (EPID, OEHS, or SBHS). Candidates that are recommended for admission at this level, are put forth to the SPH Doctoral Admissions Committee, which makes the final decisions on admissions and funding.

## Advanced Standing for Applicants with a Master's Degree

Students who enter the Ph.D. program with an MPH or approved Master's degree are eligible for *Advanced Standing*. This allows students to complete an abbreviated course of study that takes between 2 and 3 years to complete, depending on the student's past course work and current interests.

## Admission Requirements 2024-2025

The Admission Requirements above will be the same for the 2024-2025 Academic Year.

PhD Major Code: 8410

## Doctor of Philosophy

### MAJOR REQUIREMENTS

Code	Title	Hours
A minimum GPA of 3.0 is required.		
BIOS 603	Applied Biostatistics 2	3
BMS 700	Scientific Integrity	1
BMS 720	Scientific Writing	2-3
or PUBH 701	Public Health Grant Writing	
OEHS 520	Industrial Hygiene	3
OEHS 622	Public Health Toxicology	3
OEHS 625	Advanced Toxicology	3
OEHS 734	Aerosols and Health	3
OEHS 796	Graduate Seminar (Taken two times for 1 credit each)	2
PUBH 510	Contemporary Foundations of Public Health Practice	2
PUBH 511	Epidemiology for Public Health Practice	3
PUBH 512	Research Translation and Evaluation in Public Health Practice	3
PUBH 790	Teaching Practicum (Two 1-hour experiences)	2
PUBH 796	Graduate Seminar (Taken two times for 1 credit each)	2
PUBH 797	Research (Two 1-hour research rotations)	2
Electives		12
Qualifying Examination - written and oral components		
Dissertation Proposal		
Dissertation Research (minimum credit number shown)		27
PUBH 797	Research	
Dissertation Defense		
Total Hours		73

### PROGRAM REQUIREMENTS FOR STUDENTS ENTERING WITH ADVANCED STANDING

Students entering the OEHS PhD program that are admitted with advanced standing (that already hold strongly relevant Master's degrees) will work with the departmental PhD advisor for a recommended course of study. This includes initiating a selection of course credits that can be transferred (600 level and above, graded B or above, passed in the last 5 years) and/or waived that ultimately will be reviewed and approved by the PhD Program Director in consultation with the PhD Advisory Committee. Under typical circumstances a student with a recent MPH degree or similar, can expect to transfer and/or waive up to 20 credits or roughly one year of course work.

### ELECTIVES

Courses may be selected from among the many offerings of the Department, the School, or the University's many course offerings. These courses must be discussed with and approved by the student's advisor.

## TEACHING PRACTICUMS

Students will complete two (1 credit) teaching practicum (PUBH 790) during which they will spend time in a mentored relationship with a faculty member, assisting with the administration and teaching of a course. These may be graduate or undergraduate level courses. Students who have a strong interest in teaching should also consider taking C&I 789 Teaching in Higher Education (3 credits). This is a general methods course involving instructional concepts and strategies for present/prospective faculty in higher education.

*\*Full-time HSC-funded stipend students are expected to participate in the SPH teaching mission to a greater degree.*

## QUALIFYING EXAM

The qualifying examination is the capstone experience for the OEHS PhD program. Successful completion of the examination signifies competence in the field of occupational and environmental health sciences and indicates readiness to engage in independent research. Following completion of the majority of the PhD coursework, students are then eligible to take the qualifying examination, which consists of two components, a written exam and an oral defense as follows:

**Written exam:** The written exam consists of questions related to occupational and environmental health sciences generally as well as those pertinent to the student's research focus.

**Oral defense:** The oral component consists of a defense of student's answers to the written exam and includes additional questions that further test the student's understanding of key concepts in occupational and environmental health sciences and knowledge specific to the student's research focus. The oral defense of the written exam must be attempted within two academic weeks of completing the written exam. *Note: Students are not eligible to begin their dissertation, or sign up for dissertation credits, until they have successfully completed both components of the qualifying examination.*

## RESEARCH

The research component of the OEHS PhD program consists of both a dissertation (27 credits, minimum) and completion of two research rotations (2 credits).

**Research Rotations:** Students will complete two research rotations during their first year, meeting and working with research faculty with similar interests to the student's in order to identify potential mentors for their dissertation research.

**Dissertation:** Students will complete a dissertation in which they design and conduct an original work of research. First, students will develop a proposal for an original research project. This proposal will be presented and defended orally before the student's dissertation committee. Upon successful completion of the proposal defense, students are admitted to PhD candidacy and may then complete their dissertation research. There are two options for the dissertation format, a traditional book format or a three Journal Article Format (JAF). The decision of which format to use is something that students should discuss with their committee chairperson. Regardless of the format selected, students must have a minimum of one first-authored publication based on their dissertation topic area, at least under review in a peer-reviewed journal before they can defend their dissertation. While the required publication may come from one of the student's three dissertation articles if using the JAF, this is not mandatory. Upon completion of the written dissertation, the student will present and defend their work before the dissertation committee. *Note: The dissertation defense is open to all members of the WVU community and the public.*

**University Doctoral Degree Requirements:** For further details on WVU's requirements for Doctoral programs please visit the following website: [http://catalog.wvu.edu/graduate/advisingcoursesdegrees/degree\\_regulations/](http://catalog.wvu.edu/graduate/advisingcoursesdegrees/degree_regulations/).

## PLAN OF STUDY

Upon matriculating into the PhD program, students should contact the OEHS PhD Program Coordinator, or their advisor if already identified, to discuss the course requirements and to develop a plan of study (POS) to meet their individual needs. Below is a suggested POS with the minimum requirements for students entering the program with a BA/BS. *Note: Research credits show below reflect the minimum requirements. Students may enroll in additional research credits as necessary to achieve the degree competencies.*

### First Year

Fall	Hours	Spring	Hours
BMS 700		1 BIOS 603	3
PUBH 510		2 PUBH 797	1
PUBH 511		3 OEHS 622	3
PUBH 512		3 Elective 1	3
PUBH 796		1 BMS 720 or PUBH 701	2-3
OEHS 520		3	
		13	12

**Second Year**

<b>Fall</b>	<b>Hours</b>	<b>Spring</b>	<b>Hours</b>	<b>Summer</b>	<b>Hours</b>
PUBH 790		1 OEHS 734		3 Qualifying Exam	
PUBH 796		1 OEHS 796		1	
PUBH 797		1 PUBH 790		1	
OEHS 625		3 Elective 3		3	
Elective 2		3 Elective 4		3	
		9			11
					0

**Third Year**

<b>Fall</b>	<b>Hours</b>	<b>Spring</b>	<b>Hours</b>
OEHS 796		1 PUBH 797	10
PUBH 797		8	
Dissertation Proposal			
		9	10

**Fourth Year**

<b>Fall</b>	<b>Hours</b>
PUBH 797	9
Dissertation Defense	
9	

Total credit hours: 73

**DOCTOR OF PHILOSOPHY****Program Competencies**

- Develop effective strategies for teaching in higher education
- Review and synthesize pertinent literature and formulate focused research questions that address identified knowledge gaps
- Design and conduct original research that uniquely contributes to the public health scientific knowledge
- Disseminate research findings through appropriate peer-reviewed publications and presentations, and to other public health community audiences

**Major 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