University of Pittsburgh
School of Public Health
Department of Environmental and Occupational Health

Environmental & Occupational Health Sciences Doctor of Philosophy with Concentration in Public Health Practice (PhD PHP)/Master of Public Health (MPH) Degree Programs Student Handbook
2023-2024

EOH Master of Public Health (MPH)/PhD – Concentration in Public Health Practice (PhD PHP)

Program Objectives

The MPH and PhD PHP programs in Environmental & Occupational Health Sciences provides a broad education for individuals who may desire positions in environmental health management, policy and the law, academia, industry, consulting, non-governmental or government organizations, education & advocacy, regulatory & legislative design, and regulatory compliance & enforcement. Some major emphases are on the environmental origin of human disease and disease susceptibility, pollution prevention, and integration of environmental health considerations into economic and social decision-making. It provides a professional degree that emphasizes a practice-oriented, interdisciplinary approach to research that encompasses in its coursework the competencies of the five core areas of Public Health: environmental health, biostatistics, epidemiology, health policy and management, and behavioral and community health aspects of Public Health. The PhD PHP emphasizes environmental health practice, policy, or management with a focus on applied science and more practical problem solving. A student in the PhD PHP program will be required to complete the core didactic curriculum and then go on to conduct original research leading to the dissertation and defense. The performance site may be within the Department of Environmental & Occupational Health, or in some cases, another external facility. Students can specialize in Environmental Health Risk Assessment, Occupational Health, or Translational Bioscience.

Curriculum Design

The MPH/PhD PHP curricula are designed to be practice-oriented and provide students with training in diverse focus areas, such as occupational hygiene, chemical toxicology and sustainability, transport and fate of environmental agents, exposure science, and risk assessment. The design allows integration of laboratory, field, practice, and data analysis-based graduate training and research in the Department of Environmental and Occupational Health and/or another site. The curriculum combines core courses in Environmental & Occupational Health Sciences with electives throughout the University that will enhance training in the student's specific focus area. As part of the MPH/PhD PHP degrees, students can earn a certificate in Risk Assessment by completing a 15-credit course comprised of 11 credits of required courses and 4 credits of electives.

Both programs place more emphasis directed towards practice/applied research designed toward obtaining theoretical underpinning in the environmental and occupational health sciences, with more limited involvement in laboratory-based research.

Competencies

MPH

In addition to the CEPH foundational competencies, a student completing the MPH program in Environmental and Occupational Health will be able to…

- Describe the chemical processes involved in the interconversion and elimination of atmospheric pollutants, plus the details of water treatments necessary to remove contaminants from the public water supply
- Choose and explain the reasoning behind selection of specific approaches to reliable sampling of environmental samples for pollutants
- Describe how principles of toxicodynamics and toxicokinetics come together to define human and mammalian toxicity following exposure to environmental chemicals
- Perform quantitative risk assessments of the hazards posed to human populations using recent modifications to the approaches originally developed by EPA and other regulatory agencies
- Explain the mechanisms by which chemical pollutants are transported throughout the

environment and the natural processes by which they are ultimately eliminated (or not)
- Recommend methods for assessing chemical spills on-site for immediate intervention and management of clean-up operations

PhD PHP

A student completing the PhD PHP program in Environmental and Occupational Health will be able to…

- Propose approaches to mitigating and monitoring exposures of individuals to toxic organisms and chemical substances in enclosed spaces
- Propose approaches to the design and use of modern personal devices to monitor individual exposures to chemical and physical hazards, including noise, electromagnetic and ionizing radiation
- Explain to experts and non-specialists the relevance of “green" lifestyles and sustainability to environmental health
- Propose approaches to moving toward "green" lifestyles and sustainability while remaining necessarily dependent on mining and industrial processes
- Conduct a research project, that may include developing testable hypotheses, overseeing the environmental risk assessment of a site, selecting the measurements to be employed, designing data acquisition/experimental procedures, conducting the research, and presenting the findings to both general and specialized audiences

Admission Requirements

A. MPH

Acceptable training for the MPH in Environmental and Occupational Health program includes:

- A bachelor's degree in the biological/chemical/physical sciences, or engineering, with at least a 3.0 grade-point average overall in the basic sciences.

Note: the information provided above are suggested recommendations and not minimum requirements. Applicants from all backgrounds are welcome to apply.

International Applicants must submit official TOEFL or IELTS scores. A minimum TOEFL score of 80 on the IBT or a minimum IELTS score of Band 6.5 is required. TOEFL or IELTS must be taken within two years of application.

B. PhD PHP

Acceptable candidates for the PhD PHP in Environmental & Occupational Health Sciences program:

- Should have previously demonstrated ability for leadership in their fields, as well as advancement of scientific knowledge.
- Must have either completed the requirements for the MPH degree in EOH, or …..
- Hold a bachelor's degree in the physical/chemical/biological sciences, or engineering, with at least a 3.0 grade-point average overall.

Applicants who are graduates of a recognized college or university but who do not qualify for admission to full graduate status because of deficiencies in either their undergraduate course transcripts or their scholastic achievement, may be considered for provisional graduate status if strong supporting evidence of their ability to successfully complete the program is provided. Courses taken to remove deficiencies will not count toward completion of graduate degree requirements.

Part-time registration is allowed for the PhD PHP student provided this is pre-approved by the University of Pittsburgh. However, at least one term of full-time residency is required by the University for a doctoral degree prior to graduation (*Regulations Governing Graduate Study at the University of Pittsburgh).*

International Applicants must submit official TOEFL, IELTS, or Duolingo English Test scores. A minimum TOEFL score of 80 on the IBT, a minimum IELTS score of Band 6.5, or a minimum Duolingo English Test score of 105, is required. English tests must be taken within two years of application.

Application Requirements

In addition to the SOPHAS required documentation of official U.S./Canadian transcripts and C.V./Resume, please provide the following additional documentation with your application.

- Statement of Purpose and Objectives (personal statement): Your statement is intended to give you the opportunity to submit a tailored narrative which will describe your education, experience and professional career objectives. Your personal statement should describe your reasons for interest in public health; reasons for interest in the specific degree program; reasons for interest in the University of Pittsburgh; and/or career goals. Personal statements must be original.
- Three letters of recommendation
- Writing Sample (Optional): PhD applicants have an option to upload a writing sample. This may be from an article or report that you authored or a term paper. In all cases this should represent your work rather than a group project.
- World Education Services (WES) ICAP Course-by-Course evaluation of academic records from institutions outside the U.S. and English-speaking Canada (if applicable)
- Optional Items:
    - Official GRE scores submitted to Pitt Public Health code 4234
    - Publications can be uploaded under Documents
    - MCAT
    - DAT
- English proficiency test scores (if applicable):
    - TOEFL: have ETS send scores to SOPHAS using code 5688
    - IELTS: email an official score report to PHadmissions@pitt.edu
    - Duolingo English Test: have official scores sent to the University of Pittsburgh – Graduate School of Public Health

The University will waive the English Language Test requirement *only if*:

- Applicant has **obtained** a bachelor's, master's, or doctoral degree from a U.S. accredited institution located within the U.S.
- Applicant is a citizen of a specific country in which English is the official language

- Applicant has completed a degree program at an institution within a specific country outside of the U.S. where the language of instruction is English and where the official national language of the country in which the institution is located is English.

If none of these circumstances applies, the TOEFL, IELTS, or Duolingo exam is required.

The departments reserve the right to request TOEFL, IELTS, or Duolingo scores if they feel that they are necessary for the evaluation of the application, even if the applicant meets one of the criteria above.

PhD PHP Degree Requirements

A **minimum of 72 credits** and a minimum QPA of 3.0 is required for the PhD PHP degree. This total is made up of the SPH core courses, a core of required courses in the Department of Environmental and Occupational Health, a broad list of electives that allow coursework from various relevant disciplines, and research. The extra 25 (credits 72-47) beyond MPH being undertaken as additional course work and an original research project with a chosen doctoral research supervisor leading to a dissertation.

SPH Required Core Courses:	**Complete?**	**19 Credits**
BIOST 2041 Intro to Statistical Methods		3
EPIDEM 2110 Principles of Epidemiology		3
PUBHLT 2033 Foundations in Public Health		1
PUBHLT 2015 Public Health Biology		2
PUBHLT 2022 Public Health Grand Rounds (two semesters)		0
BCHS 2509 Social & Behavior Sciences & Public Health		3
HPM 2001 Health Policy & Management in Public Health		3
PUBHLT 2034 Public Health Communication		2
PUBHLT 2035 Applications in Public Health		2
EOH Required Courses:		**28 Credits**
EOH 2504 Principles of Environmental Exposure		3
EOH 2180 Intro to Risk Science		1
EOH 2181 Risk Assessment Practicum		2
EOH 2309 Environmental Health Chemistry		3
EOH 2175 Principles of Toxicology		3
BIOST 2049 Applied Regression Analysis		3
EOH 2122 Transport & Fate of Environmental Agents		3
EOH 2108 Practicum		2
EOH 2021 Essay/Special Studies (PhD PHP Qualifying Exam)		2
EOH 2609 Chemical Toxicology in the Age of Green Chemistry		3
EOH 2004 Occupational Hygiene		3
Electives (Optional-at discretion of supervisor[#]):		

Research:		**20 Credits Minimum**
EOH 3010 Research and Dissertation (up to 25 credits)		variable
FTDR 3999 Full Time Dissertation Study (after reaching 72 credits)		0
Total Required SPH CORE Courses		**19**
Total Required EOH Courses		**28**
Total Elective/Research Courses		**25**
Total Required Credits for PhD PHP*		**72**

* Up to 24 credits may be transferrable from a previous graduate degree. If the degree is not yet earned, up to 6 credits may be transferred.

Partial listing of EOH elective courses[#]:	**Credits**
BCHS 2572 Risk Communication	3
BCHS 3015 Community Mapping and Introductory Spatial Analysis	3
EOH 2805 Epigenetics & Epigenomics of Environmental Health	3
GEOL 2449 GIS, GPS, and Computer Models	3
LAW 5340 Environmental Law	3

[#] In addition to electives offered in EOH, students can select from any elective course offered through training programs in SPH provided that approval is granted by the EOH Graduate Advisory Committee.

MPH Degree Requirements

A **minimum of 47 credits** is required for the MPH. This total is made up of the SPH core courses, a core of required courses in the Department of Environmental and Occupational Health and a broad list of electives that utilize coursework from various relevant disciplines in the school.

SPH Required Core Courses:	**Complete?**	**19 Credits**
BIOST 2041 Intro to Statistical Methods		3
EPIDEM 2110 Principles of Epidemiology		3
PUBHLT 2033 Foundations in Public Health		1
PUBHLT 2015 Public Health Biology		2
PUBHLT 2022 Public Health Grand Rounds (two semesters)		0
BCHS 2509 Social & Behavior Sciences & Public Health		3
HPM 2001 Health Policy & Management in Public Health		3
PUBHLT 2034 Public Health Communication		2
PUBHLT 2035 Applications in Public Health		2
EOH Required Courses:		**20 Credits**
EOH 2309 Environmental Health Chemistry		3
EOH 2504 Principles of Environmental Exposure		3
EOH 2180 Introduction to Risk Sciences		1
EOH 2175 Principles of Toxicology		3
EOH 2122 Transport and Fate of Environmental Agents		3

EOH 2108 EOH/MPH Practicum		2
EOH 2021 Special Studies/Essay		2
BIOST 2049 Applied Regression Analysis		3
Suggested Electives:		**Credits**
BCHS 2572 Risk Communication		3
BCHS 3015 Community Mapping & Introductory Spatial Analysis		3
EOH 2004 Occupational Hygiene		3
EOH 2021 Special Studies / Research (1-9 credits)		1-9
EOH 2181 Risk Sciences Practicum		2
EOH 2609 Chemical Toxicology in the Age of Green Chemistry		3
EOH 2805 Epigenetics and Epigenomics of Environmental Health		3
EOH 3305 Genome Instability and Human Disease		3
EPIDEM 2223 Introduction to Environmental Epidemiology		2
GEOL 2449 GIS, GPS, and Computer Methods		3
LAW 5340 Environmental Law		3
Total Required SPH CORE Courses		**19**
Total Required EOH Courses		**20**
Total Elective Courses		**8**
Total Required Credits for MPH*		**47**

*Students can transfer up to 6 credits towards a master's degree, either from within or outside of Pitt. They must have a B or better grade.

Partial listing of EOH MPH elective courses*	**Credits**
BCHS 2572 Risk Communication	3
BCHS 3015 Community Mapping & Introductory Spatial Analysis	3
EOH 2004 Occupational Hygiene	3
EOH 2021 Special Studies / Research	1-9
EOH 2181 Risk Sciences Practicum	2
EOH 2609 Chemical Toxicology in the Age of Green Chemistry	3
EOH 2805 Epigenetics & Epigenomics of Environmental Health	3
EOH 3305 Genome Instability and Human Disease	3
EPIDEM 2223 Introduction to Environmental Epidemiology	2
GEOL 2449 GIS, GPS, and Computer Methods	3
LAW 5340 Environmental Law	3

** In addition to electives offered in EOH, students can select any graduate-level course provided that approval is granted by the EOH Graduate Advisory Committee.*

MPH/PhD PHP-Timeline for Completion of Coursework

FALL TERM – YEAR 1

PUBHLT 2015 Public Health Biology (MPH, PhD PHP)	2
PUBHLT 2033 Foundations in Public Health (MPH, PhD PHP)	1
BIOST 2041 Intro to Statistical Methods (MPH, PhD PHP)	3
EPIDEM 2110 Principles of Epidemiology (MPH, PhD PHP)	3
EOH 2309 Environmental Health Chemistry (MPH, PhD PHP)	3
EOH 2504 Principles of Environmental Exposures (MPH, PhD PHP)	3
PUBHLT 2022 Public Health Grand Rounds (MPH, PhD PHP)	0
SPRING TERM – YEAR 1	
BCHS 2509 Social & Behavioral Sciences & Public Health (MPH, PhD PHP)	3
BIOST 2049 Applied Regression Analysis (MPH, PhD PHP)	3
EOH 2180 Introduction to Risk Sciences (MPH, PhD PHP)	2
EOH 2181 Introduction to Risk Sciences Practicum (PhD PHP)	1
PUBHLT 2034 Public Health Communications (MPH, PhD PHP)	2
HPM 2001 Health Policy & Management in Public Health (MPH, PhD PHP)	3
PUBHLT 2022 Public Health Grand Rounds (MPH, PhD PHP)	0
SUMMER TERM – YEAR 1	
EOH 2021 Special Studies/Research (PhD PHP)	3
EOH 2021 Special Studies/Essay (MPH, PhD PHP)	2
FALL TERM – YEAR 2	
PUBHLT 2035 Applications in Public Health (MPH, PhD PHP)	2
EOH 2175 Principles of Toxicology (MPH, PhD PHP)	3
EOH 2004 Occupational Hygiene (PhD PHP)	3
Electives **(MPH as needed for 47 total credits)**	≤5
SPRING TERM – YEAR 2	
EOH 2122 Transport and Fate of Environmental Agents (MPH, PhD PHP)	3
EOH 2609 Chemical Toxicology in the Age of Green Chemistry (PhD PHP)	3
EOH 2108 EOH/MPH Practicum (MPH, PhD PHP)	2
Electives **(MPH as needed to accumulate 47 total credits)**	1
SUMMER TERM – YEAR 2	
EOH 2021 Special Studies/Research (PhD PHP)	3
EOH 2021 Special Studies/Essay (MPH, if needed)	2

PhD PHP FALL/SPRING/SUMMER - YEAR 3+	
EOH 3010 Research and Dissertation	1-15
FTDR 3999 Full Time Dissertation Study	0

Examinations and Research (PhD PHP)

The PhD PHP is a School of Public Health degree program, and the Department of Environmental and Occupational Health adheres to the School's requirements for this degree. The sequence of Examinations leading to the fulfillment of requirement for this concentration is similar to that for our existing PhD. The composition of the various Examination Committees adheres to the SPH minimum requirements. The specific Examinations and the timing of these are described briefly below.

Preliminary Examination (Qualifying examination for PhD PHP students)

Qualifying Evaluation (Preliminary Examination) is designed to assess the student's knowledge of the discipline, the student's achievement after **completing all of the core course requirements for the MPH degree,** when it should be conducted, and the potential to apply research methods independently. The student will be required to make an oral presentation (20 min) of the material contained in their MPH Essay to their Qualifying Committee and satisfactorily address any questions. This evaluation is used to identify those students who may be expected to complete a Doctoral program successfully and reveal areas of weakness.

- **Prerequisites:** Students must have completed two full semesters of their required core coursework and achieved a GPA of 3.0 or better prior to taking the Preliminary/qualifying Examination. Students should take their examination no sooner than the end of their first spring semester and no later than the end of their second spring semester.

- **Examining Committee:** The committee will be selected by the Graduate Program Committee based upon topic and content of the written proposal. The examining committee will be composed of:
  - one of the four standing faculty members of the EOH Graduate Program Committee
  - one member of the EOH Graduate Faculty
  - one Graduate Faculty member in another GSPH or University of Pittsburgh department.
  - The student's research advisor will participate in the examination as a silent observer of the proceedings.

Comprehensive Examination/Overview or Prospectus Meeting

This is designed to assess the student's mastery of the general field of Doctoral Study, the student's acquisition of both depth and breadth in the area of specialization within the given field, and the ability to use the research methods of the discipline. This examination will be a presentation of their dissertation research proposal, both in writing and orally, to their Research Advisory/Doctoral Committee at a formal overview meeting. The overview requires a student to carefully formulate a plan and permits the Doctoral Committee to provide guidance in shaping the conceptualization and methodology of the plan. The Advisory Committee must critique the research proposal, upon which the student will make appropriate revisions prior to committee approval. It should be administered at approximately the time of completion of the formal course requirements and should be passed at least one semester before the scheduling of the final oral examination and dissertation defense. The Doctoral

Committee must unanimously approve the dissertation topic and research plan before the student may be admitted to candidacy for the Doctoral degree. Approval of the proposal does not imply either the acceptance of the dissertation prepared in accord with the proposal or the restriction of the proposal to the original proposal.

Note:

- PhD PHP: it is expected that the prospectus exam (dissertation overview/comprehensive) will be within 1 year of the qualifying exam. If not the case, there should be a pre-prospectus meeting with the dissertation committee.

Admission to Candidacy for a Doctoral degree constitutes a promotion of the student to the most advanced stage of graduate study and provides formal approval to devote exclusive attention to the research and writing of the dissertation. To qualify, the student must be in full graduate status, have satisfied the requirements of the Preliminary Evaluation, have completed formal coursework with a minimum quality point average of 3.00, have passed the Comprehensive Examination/Prospectus meeting, shown proficiency in a research or investigative tool, and have received approval of the proposed subject and plan of the dissertation from the Doctoral Committee following an Overview Meeting of the committee. This must occur at least one term before the Dissertation Defense.

Final Oral Examination is where the student presents his/her research to the Doctoral Committee. This examination may be either a defense of the dissertation, or an examination in the field of the dissertation, or a combination of both and need not be confined to materials in or related to the dissertation. All members of the Doctoral Committee must attend the examination. Any member of the graduate faculty of the University may attend and participate in the examination. Only members of the Doctoral Committee may be present during the final deliberations and may vote on passing of the candidate. The chairperson of the doctoral committee should ensure that the dissertation is in final form before requesting signatures of the members of the committee.

Please note:

- Doctoral defenses must be announced at least 3 weeks in advance. Information and guidelines for graduation can be found here.

Practicum Requirement (MPH)

MPH students are required to complete a 200-hour practicum. Students register for 2 credits of EOH 2108: EOH/MPH Practicum. Students work with their advisor and practicum preceptor to identify five competencies that will be attained throughout the practicum and two practical non-academic work products (deliverables) to be completed for the benefit of the organization/agency. At least three of the five competencies must be CEPH foundational competencies, and at most two competencies can EOH MPH program competencies. Practicum Learning Agreement forms must be completed before the start of the practicum.

MPH students are required to submit a practicum ePortfolio documenting the attainment of competencies and completion of work products. For the latest information on the practicum e-portfolio, please visit: MPH e-Portfolio | School of Public Health (pitt.edu)

Evaluation of the practicum experience is completed by the advisor, student, and preceptor.

The Required Academic Essay (MPH)

MPH students are required to submit a master's essay and register for 2 credits of EOH 2021: Special studies. Students work with their advisor to complete an ILE agreement form where they identify three competencies that will be integrated and synthesized through essay activities before starting their essay. Two competencies must be CEPH foundational competencies and one competency must be an EOH MPH program competency. Upon submission of their essay, the student and their advisor will complete an ILE assessment form with the advisor verifying the integration and synthesis of competencies in the essay. Additional information and guidance for essays are outlined below.

In the context of an academic (graduate-level) piece of work in an applied science, one should think of an 'essay' in the following terms. It should be a short (20-25 pages double-spaced text + figures, excluding references) composition, analytical or interpretive in nature, but dealing with the subject in a limited and not overly technical fashion (< 1/3 data, figures, tables *etc.*). That is, simply expanding a research report is not acceptable.

[*Note:* In a non-academic setting, the purpose behind a report might very well be to help your company/organization offer a better product, or service, to customers – this could simply involve filling in some gaps in existing technical information, or devising a plan of how some other employee(s) might do this. However, the academic essay requires that you go further.] An acceptable essay can be either balanced or opinionated, but will contain at least 6 distinct sections and conform to the following criteria:

1) Title Page – title of essay, author's name, submission date, readers' names.
2) Introduction – subject matter, public-health relevance, statement of purpose, intended readership? (1-2 pages)
There should be some statement of objectives; including, why the particular subject was chosen, its relevance to environmental or occupational public health, the targeted readership and why the approach employed has been selected (data mining, literature review, experimental, field work, pure *a priori* reasoning, or whatever).
3) Review – the bigger picture, then the little picture (8-10 pages).
Broad review with references of why the subject is of interest, especially in the context of public health; followed by a more narrowly focused treatment relevant to the material in the next (analytical) section.
4) Analytical Section – data, analysis, interpretation *etc.* (8-10 pages)
It is not necessary to present a detailed description of 'methods'; if important, such details can be included in the legends to figures, or notes in tables.
5) Concluding Remarks – conclusions, critique, opinions, suggestions *etc.* (3-5 pages)
The essay should end with one or more firm conclusions, or strong statements of opinion, plus critique of any relevant existing dogma and suggestions of how things could be done differently in the future – simply summarizing what has already been written is not good enough.
6) Bibliography
Websites are to be discouraged, but if used, the date of access should be included. Reputable government websites, such as those of ATSDR, EPA, NIOSH, OSHA, *etc.* are reliable sources. However, citations to blogs, sites run by advocacy groups, and information sources such as Wikipedia, while acceptable in some limited circumstances, are generally to be discouraged. As many as possible of the references (certainly more than half) must be from the primary literature (*i.e.* peer-reviewed publications).
7) Formatting Style – must conform to SPH guidelines for Dissertations/Theses/Essays.
8) Assessment – must be "passed" by a minimum of two Readers, one internal (EOH faculty) and one external (non-EOH Pitt faculty).

9) Approval & Supervision

The subject matter of the Essay and selection of internal Reader should be approved by the Program Director before any writing starts. Approval should be obtained early in the semester before the one in which you plan to graduate. The internal Reader will act as the Essay advisor/editor and assist with the identification of an appropriate external Reader.

10) Deadlines

A draft manuscript of suitable quality (as judged by the internal Reader) for submitting to the external Reader is due **no later than February 15** for Spring graduation. If, however, you wish us to petition on your behalf for part-time enrollment in the Spring semester, a draft suitable for submission to the external Reader must be seen and approved by the internal Reader **no later than December 31**.

Oversight of student progress:

Program Director: Oversees all functions of the Environmental Health Sciences Training Program and is responsible for final decisions following consultation with the Department Chair and the EHS Graduate Program Committee.

EOH Graduate Program Committee: Composed of three to four faculty members with faculty serving three-year terms (1 new member each year). The chair of the committee is the longest standing faculty member at any one time. Roles for this committee are to:

1) Oversee progress of individual students in their coursework and make appropriate recommendations.
2) Mentor students prior to their selection of a permanent advisor
3) Oversee Preliminary Examination for PhD PHP students.
4) Oversee Essay examination for MPH students

S/A Department Coordinator*:* manages student affairs and ensures that students meet appropriate deadlines for their progression along the PhD PHP and MPH tracks.

Research Advisor: Selected by student--students are allowed to reach out to a faculty member(s) whose research aligns with their interest. The research advisor and student propose a Research Advisory Committee that must be approved by the EHS Graduate Program Committee and SPH. Note that the research advisor cannot chair the Research Advisory Committee.

***Research Advisory and Dissertation Defense Committee (PhD PHP students)*:** Responsible for assisting the primary research advisor and the student in the focus and direction of the student's research. This committee should meet twice annually and must sign an evaluation form completed by the student and his/her mentor at each committee meeting. Evaluations are submitted to the EHS Graduate Program Committee and failure to report evaluations will result in students losing their GSR support. The Research Advisory Committee also conducts the student's dissertation defense and must sign the appropriate forms following its successful completion. This committee is composed of:

- at least four University of Pittsburgh faculty members including the research advisor. The Research Advisor must be a member of the Graduate Faculty.
- at least two EOH faculty members.
- at least one University of Pittsburgh faculty member from outside the Department.
- Additional members of the committee can be faculty outside of the University of Pittsburgh.
- A majority of the committee must be Graduate faculty at the University of Pittsburgh.

- The Chair of the Research Advisory Committee must be an EOH and Graduate Faculty member and cannot be the Research Advisor.
- If dissertation work includes internship/practica experience, including data and policies, from the Allegheny County Health Department the committee must include a preceptor from the Allegheny County Health Department. If the preceptor is an adjunct faculty member, they count as a faculty member. If they do not hold an adjunct appointment, they must be added in addition to all faculty on the committee.

Independent Development Plan (PhD PHP students): The independent development plan is a guiding document that will be completed by the student and advisors upon matriculation into the program. The program develops the student's expectations and goals for advancement through the program and towards the next stage of career development. Before the student identifies a faculty mentor to guide their research and development, the Graduate Program Committee will serve as the advisors for completing the development plan. The plan will be reviewed and updated each year and at each critical step in the program (e.g. qualifying and comprehensive examinations). The independent development plan and documented updates will be kept in the student's file.

Student Performance: The criteria for evaluation of student performance and the procedures for dismissal will be the same for students in this program as for all other SPH students. Students must maintain a B or better average in courses to be eligible to take the PhD PHP qualifying exam. Student performance will be evaluated at each of the major milestones of the student's tenure in the department (e.g. completion of laboratory rotations, qualifying examination, prospectus/dissertation overview/comprehensive examination, and dissertation defense). Performance will be reviewed by the EHS Graduate Program Committee.

Comparison of Existing PhD and PhD PHP in Environmental & Occupational Health
There is sometimes confusion regarding the relative merits of the PhD PHP and PhD degrees. From the perspective of scholarly (doctoral-level) requirements, the PhD PHP and PhD programs in EOH are of equal status; successful completion of both requiring a qualifying evaluation, prospectus (overview) meeting/comprehensive examination, submission of a full dissertation (based on original research) and oral defense. The specific differences between the two programs are documented in the following table.

	PhD	PhD PHP
Purpose	To train individuals for subsequent postdoctoral positions; from which they will ultimately pursue careers in college-level teaching and/or independent research.	To prepare graduates to advance environmental health issues impacting the public, through the integration and application of a broad range of knowledge and analytical skills in basic environmental science, leadership, public health practice, policy analysis, professional communication and program management.
SPH Core	Not required	Required (19 credits)

EOH Core	40-45 credits –15 in common with PhD (Transport of Fate of Environmental Agents, Principles of Toxicology, Intro to Risk Sciences, Risk Assessment Practicum, Principles of Environmental Exposure, Applied Regression Analysis).	28 credits – 15 in common with PhD (Transport of Fate of Environmental Agents, Principles of Toxicology, Intro to Risk Sciences, Risk Assessment Practicum, Principles of Environmental Exposure, Applied Regression Analysis).
Journal Club	Oral presentation by individual students of the findings reported in current research literature (1 credit per semester).	Not required.
Rotation	Part-time introduction to research (4.0 credits) before research advisor has been selected.	Not required.
Practicum	Not required.	Two hundred hours minimum, full-time practicum spent working at relevant company, foundation, or government agency. The practicum has structured learning objectives, outcomes and performance evaluation.
Qualifying	Written original research proposal (5 page limit) addressing a current RFA (request for applications) published by a federal agency. Oral presentation and examination.	Essay (over 20 pages) that may be analytical or interpretive, based upon literature review or original data, addressing an issue of current environmental public health concern. Oral presentation and examination.
Research	The required data will normally be generated through laboratory-based experiments; but in the case of more theoretical projects, the data could be obtained from other sources, or produced by numerical simulations.	The collection of original qualitative and quantitative data could involve laboratory experiments, field-work, obtaining the information from other available sources, or frequently some combination of these. Equally relevant would be appropriate secondary re-analysis of existing environmental health data, or the application of other methodologies to an environmental health problem, such as socioeconomic analysis and policy development strategies.
Dissertation	One or more relevant hypotheses should have been tested, some scientific paradox resolved, or a new	The dissertation should focus on a practical and significant problem within environmental health. Although the

	piece of scientific theory will have been developed.	dissertation may be hypothesis driven, it may also involve the translation and application of scientific data to programmatic initiatives or relevant policies. The overall objective of the dissertation should ultimately be to contribute to improvement of the public's health through a greater understanding of, or better protocol for dealing with, environmental factors.

SPH schoolwide probation and dismissal policy and procedures scope

Please visit https://www.sph.pitt.edu/academics/forms-handbook/academic-handbook/course-requirements for the current SPH school-wide probation and dismissal policy and procedures.

Milestone Committee Composition Rules

Please visit https://www.sph.pitt.edu/academics/forms-handbook/academic-handbook/research-practice-and-exam-requirements/milestone for the current rules regarding milestone committee composition.

SPH Academic Handbook

Please visit https://www.sph.pitt.edu/academics/forms-handbook/academic-handbook for the full SPH academic handbook.

Contact

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