

OCCUPATIONAL AND ENVIRONMENTAL HYGIENE, MASTER OF SCIENCE

The Master of Science (MS) in Occupational and Environmental Hygiene (OEH) program is a professional degree designed for students interested in developing or advancing professional careers in occupational and environmental risk assessment and management. This program is part of the Department's NIOSH-sponsored Education and Research Center in Occupational Safety and Health. Graduates of the program are employed in consulting, private industry and/or government, and they are also prepared to pursue doctoral studies in environmental health sciences. The program may be undertaken on a full-time or part-time/online basis and both options confer the same degree. Students interested in pursuing the part-time/online program should refer to Engineering for Professionals for more information.

The Master of Science in Occupational and Environmental Hygiene degree program is accredited by the Applied and Natural Sciences Accreditation Commission of ABET (<https://www.abet.org/>).

Program Educational Objectives

The MS OEH Educational Objectives focus on objectives that our graduates are expected to attain within a few years of graduation. The objectives were reviewed and approved by our external advisory committee on 2/26/2025 and are stated as follows:

The Program in Occupational and Environmental Hygiene educates students to think critically, communicate clearly, and collaborate effectively as they apply the fundamental scientific principles of industrial hygiene to environmental and workplace problems. We emphasize the importance of intellectual growth, professional ethics, and service to society.

The OEH Program has four broad educational objectives. Our efforts are focused on enabling students to:

1. Anticipate, recognize, evaluate, and control factors in the workplace and the environment that may cause illness, injury, or impairment;
2. Build a successful career and obtain professional certification using the comprehensive education and training received;
3. Integrate industrial hygiene techniques, biostatistics, epidemiology, management, and environmental health concepts into a broader occupational/environmental health practice; and
4. Pursue continuing education in research and professional practice of Occupational and Environmental Health.

In addition to the five core areas mentioned in #3 above, coursework includes toxicology, occupational health, occupational and environmental hygiene, air pollution, environmental sampling, exposure assessment, and program management, as well as risk assessment, risk management and risk communication.

General Student Outcomes

Students graduating with a MS in Occupational and Environmental Hygiene will have demonstrated an ability to:

1. Identify, formulate, and solve broadly defined technical or scientific problems by applying knowledge of mathematics and science and/or technical topics to areas relevant to the discipline;
2. Formulate or design a system, process, procedure, or program to meet desired needs;
3. Develop and conduct experiments or test hypotheses, analyze and interpret data and use scientific judgement to draw conclusions;
4. Communicate effectively with a range of audiences;
5. Understand ethical and professional responsibilities and the impact of technical and/or scientific solutions in global, economic, environmental, and societal contexts; and
6. Function effectively on teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty.

Program Outcomes

1. Understand physiological and/or toxicological interactions of physical, chemical, biological, and ergonomic agents, factors, and /or stressors with the human body;
2. Anticipate, recognize, evaluate, and control potentially hazardous agents, conditions, and practices in workplace settings;
3. Apply fundamental exposure assessment techniques (both qualitative and quantitative) in workplace settings;
4. Perform industrial hygiene data interpretation of new and existing data including statistical and epidemiological principles;
5. Apply appropriate business and managerial practices to workplace settings;
6. Understand, interpret, and apply occupational and environmental standards and regulations; and
7. Understand fundamental aspects of safety and environmental health.

Students will undertake an appropriate professional experience tailored to the needs of the individual student and complete an Independent Professional Project (IPP) and present the results of the IPP in written form and orally.

For students particularly interested in careers in occupational hygiene the program is accredited by the Applied and Natural Science Accreditation Commission (ANSAC) of the Accreditation Board for Engineering and Technology (ABET), and is designed to prepare students for the Certified Industrial Hygienist (CIH) examination administered by the American Board of Industrial Hygiene (ABIH). Training in the program covers principles of risk assessment and management in the workplace and in the general environment. Coursework includes toxicology, epidemiology, biostatistics, occupational health, occupational and environmental hygiene, air pollution, environmental sampling, exposure assessment, and program management, as well as risk assessment, risk management and risk communication.

Students Seeking Additional Research/ Internship Opportunities

Additional laboratory and internship opportunities are assessed on a case-by-case basis and should be discussed with your adviser before starting any work. Students who would like credit for working in a faculty lab can register for 182.845. Students who would like credit for additional internship hours outside of JHU can enroll in 182.810. This applies to both domestic students and international students (who need to meet visa requirements).

The curriculum for Occupational and Environmental Hygiene is housed at Bloomberg School of Public Health. Please note that the school schedules courses by term rather than semester.

First Year Requirements

Code	Title	Credits
First Term		
PH.140.621	Statistical Methods in Public Health I	4
PH.340.721	Epidemiologic Inference in Public Health I	5
PH.187.610	Public Health Toxicology	4
PH.188.680	Fundamentals of Occupational Health	3
PH.182.845	EHE MS Special Studies and Research	1
Second Term		
PH.140.622	Statistical Methods in Public Health II	4
PH.182.621	Introduction to Ergonomics	4
PH.182.614	Laboratory Techniques to Measure Environmental and Occupational Contaminants	5
PH.182.625	Principles of Occupational and Environmental Hygiene	4
PH.182.845	EHE MS Special Studies and Research	1
Third Term		
PH.140.623	Statistical Methods in Public Health III	4
PH.182.615	Airborne Particles	4
PH.182.623	Occupational Health Management	3
PH.182.613	Exposure Assessment Techniques for Health Risk Management	3
PH.182.845	EHE MS Special Studies and Research	1
Electives		
Fourth Term		
PH.180.628	Introduction To Environmental and Occupational Health Law	4
PH.305.615	Occupation Injury Prevention and Safety Policy and Practice	2
PH.188.681	Onsite Evaluation of Workplace and Occupational Health Programs	5
PH.182.845	EHE MS Special Studies and Research	1
Electives		
<i>Summer - No registration required</i>		

Second Year Requirements

Code	Title	Credits
First Term (fifth term of program)		
PH.182.622	Ventilation and Hazard Control	4
PH.317.600	Introduction to the Risk Sciences and Public Policy	4
PH.182.810	MS Field Placement	1
PH.182.850	EHE MS Essay	1
PH.182.845	EHE MS Special Studies and Research	1
Electives		
Second Term (sixth term of program)		
PH.182.637	Noise and Other Physical Agents in the Environment	4
PH.317.610	Risk Policy, Management and Communication	3
PH.182.850	EHE MS Essay	1 -
		16

PH.182.845	EHE MS Special Studies and Research	1
Electives		

In addition, all students are required to complete EN.500.603 Graduate Academic Ethics as well as AS.360.624 Responsible Conduct of Research (Online). These online courses must be completed during the first term after matriculation.

Note: It is permissible to substitute the online versions of noted courses in place of the face-to-face versions. Online versions of courses are usually offered in different terms and may require rearrangement of other courses. Check with your advisor.

Internship or Independent Professional Project & Essay Requirement

As a requirement of the MS OEH program, each student must complete an independent professional project (IPP) and write a culminating essay that is presented in a formal seminar. The IPP can be completed as part of the internship experience for full-time students or in the context of a student's employment for part-time students. The essay is intended to serve as an integrating experience for the students. The content is based on an occupational or environmental health problem that is pertinent to the educational goals of the student and approved by the advisor. The essay is typically the product of an internship or employment experience. The essay represents a substantive application of professional technical skills through the process of collecting and summarizing data and reviewing appropriate literature. Where possible, students are encouraged to pursue projects that can lead to a publishable manuscript.

The full-time program includes a three-month internship. The internship is designed to provide professional experience tailored to the needs and interests of each student. During the internship, the student is expected to assume independent responsibility for a project, which is described in a culminating paper that serves as a review of the entire educational experience. Internship placements for full-time students are evaluated by asking field mentors to evaluate the student performance and each student to evaluate their internship. Students will register for PH.182.810 MS Field Placement.

Students are expected to adhere to all university policies. These policies include those related to grade requirements, registration, academic progress, deadlines, satisfactory completion of exams, and academic integrity, non-academic conduct, and research ethics. Students who fail to follow or meet the established policies may be subject to dismissal. Below is a sample of critical policies for reference:

The fundamental purpose of the Johns Hopkins University's (the "University" or "JHU") regulation of student conduct is to promote and to protect the health, safety, welfare, property, and rights of all members of the University community as well as to promote the orderly operation of the University and to safeguard its property and facilities. As members of the University community, students accept certain responsibilities which support the educational mission and create an environment in which all students are afforded the same opportunity to succeed academically.

Allegations of sexual misconduct are covered by JHU's Sexual Misconduct Policy and Procedures for faculty, staff, and students. The University encourages individuals to report incidents of sexual misconduct and provides a variety of avenues, both formal and informal, by which individuals can report complaints of sexual

harassment. Allegations of sexual harassment by students are covered under the JHU program and under the Student Conduct Code.

All members of the Johns Hopkins community are responsible for immediately informing Engineering Student Affairs of any suspected violations of the non-academic Code of Conduct; and to immediately inform the WSE Office of Graduate Education and Lifelong Learning of any suspected academic/research integrity violations. Specific policy links can be located here. The faculty and students at the Whiting School of Engineering have the joint responsibility for maintaining academic integrity and guaranteeing the high standard of conduct of this institution.

Students enrolled in the Whiting School of Engineering assume an obligation to conduct themselves appropriately to The Johns Hopkins University's mission as an institution of higher education. A student is obligated to refrain from acts which he or she knows, or under the circumstances has reason to know, impair the academic integrity of the University. Allegations of violations of academic and research integrity by WSE students are covered under the policies and procedures contained in the General Academic Misconduct Policy and the General Misconduct Policy.

Personal Relationships

The Johns Hopkins University is committed to the personal, academic, and professional well-being and development of its students, trainees, faculty, staff, postdoctoral fellows, clinical residents, and all other members of the University community. The University seeks to maintain an atmosphere of mutual respect, collegiality, fairness, and trust. The Personal Relationships Policy implements the University's commitment to maintaining the integrity of its educational and working environment. This policy focuses on the conflict of interest that may exist when individuals simultaneously engage in both personal and professional relationships in which one individual has the potential to exert substantial academic or professional influence over the other.

GRADE REQUIREMENTS

EHE WSE master's students can use up to two C's (C-, C, or C+) toward their degree program requirements. A course graded D+ or lower can not be used toward graduation requirements. A student not meeting academic minimum requirements may be placed on academic probation.

LEAVE OF ABSENCE

Policy Statement

The Johns Hopkins University ("University" or "JHU") is committed to maintaining a welcoming, inclusive, and caring environment for all students. The University grants or requires a leave of absence under appropriate circumstances to support students' necessary time away for medical, service, hardship, or academic reasons. The Office of the Provost provides leadership and support to University officials acting under this Student Leave of Absence Policy's (the "Policy") procedures and related divisional procedures, including consulting with and providing guidance to deans and their designees, registrars, and others to support consistent and fair application of this Policy across the University.

The University complies with the Americans with Disabilities Act ("ADA") and Section 504 of the Rehabilitation Act of 1973 which afford protection from discrimination for otherwise qualified students with disabilities. The University will engage in an interactive, individualized process with each Covered Student to determine if there are any adjustments that can be made in accordance with the ADA and Section 504.

Full Policy

The full policy can be found in the JHU Policy and Document Library.

How to File for Permission to Take a Leave of Absence

Graduate Students in WSE must schedule a consultation with the Office of Engineering Student Support and Advocacy prior to submitting their LOA application. International students must contact OIS before filing for LOA. Additional information regarding the process for Graduate Students requesting a LOA can be found on the WSE webpages.

Note that PhD students wishing to file for a leave from their work (non-academic/degree-related) appointments should consult the PhD Union Collective Bargaining Agreement for more information on types of leaves available.

If it becomes necessary to take a break from studies, students should contact their advisor and academic program manager to determine if a formal leave of absence (LOA) is necessary. Any request for change of status must be discussed with the program or track director(s) and academic program manager and approved by the department and school. For more information, please see:

Parental Accommodations

Please see the university page on parental accommodations for full-time graduate students and post-doctoral fellows.

TRAVEL RESOURCES

Students should check the university's Travel Resources page.

Students are not obligated to travel internationally, and each student has the right to decline to travel abroad. If the student is supported by a research project that requires such travel and the student chooses not to travel, the student may be removed from that project following discussions with the principal investigator and the EHE program or track directors.

Graduate students who decide to travel abroad must demonstrate that they understand and voluntarily accept the risks inherent in international travel. To do so, students must first receive the appropriate departmental approvals for the trip through their advisor and program or track director(s). Students should also evaluate options for registering travel and obtaining pre-travel immunizations through the school or health care system. All JHU affiliates (notably in this section- students) traveling outside the US to conduct JHU university work/academic activity/on university payroll must receive prior vetting, guidance, and approval from JHU export control, the university's tax and global HR offices, as well as the dean's office, so they understand any restrictions/concerns/adjustments to appointments and/or payroll/allowed activities in advance. Students should contact their academic staff and advisor for more information and the request process.

Immunizations

Students traveling outside the US are strongly encouraged to contact their health care provider or the Johns Hopkins International Travel clinic in advance of the travel to learn about recommended immunizations and other matters to guard their health. Located on the East Baltimore campus, you can reach the International Travel Clinic by telephone at 410- should double check their insurance coverage prior to securing vaccinations/examinations/prophylactics to understand coverage and potential costs.

Stay Informed

Students are encouraged to vigilantly monitor consular and press reports regarding the country (or countries) where they plan to travel. Students may also check the consular reports of countries friendly to the U.S. (e.g., Australia, Canada, United Kingdom) as well as reports from other international agencies (e.g., United Nations). Students should participate in the security briefings offered by other organizations with whom they may be working.

Maintain Communication

When traveling in an area where regular communication is difficult, students are encouraged to maintain contact with their advisor and/or the academic program manager.

State Department Registration

For students who are likely to stay for a prolonged period in a high-risk area, registration at the U.S. embassy or consulate is essential.

International Students

OIS may be contacted at 410-955-3371. International students must contact the Office of International Services (OIS) well in advance of any travel to avoid compliance issues with their visa status.

Healix International

Johns Hopkins has implemented a comprehensive travel assistance program supported by Healix International. For more information visit the International Travel for

A student who has a concern about an academic decision or act of a faculty member, or student of the Department of Environmental Health and Engineering, should follow the steps outlined below:

First, Attempt to Resolve Informally Through Local Channels

1. The student should first approach the person or parties (e.g., academic advisor, related office, etc.) directly involved as soon as possible to discuss questions or concerns. If they are not comfortable with this, they may elect to contact the program for assistance first. Additionally, the WSE Office of Engineering Student Support and Advocacy can offer non-clinical, non-academic support to talk through options and steps. For PhD Students, they may elect to reach out to the university's PhD and postdoctoral ombuds office.
2. If the issue or concern is not resolved at the first level the student is encouraged to contact the program for assistance. A written request for problem resolution is requested at this stage. This request should include specific details about the problem, documentation if appropriate, and a suggestion for resolution.
3. If no resolution can be found in prior steps, the matter will be referred to a Grievance Arbitration sub-Committee within the EPC, who will address the problem as they deem necessary, and make a recommendation to the Department Chair.

If an Informal Resolution is Not Possible, Consider Filing a Formal Academic Grievance

If the matter is not resolved within the Department or requires review and/or decision at the School or University level, a student may refer to the university's academic grievance policy above for next steps.

ACADEMIC GRIEVANCE POLICY: STUDENTS AND POSTDOCTORAL FELLOWS

Policy Statement

Johns Hopkins University seeks to provide a supportive educational, training, and professional environment. The University provides several avenues of redress for students and postdoctoral fellows who believe they have been adversely affected in their professional or educational activities as a result of an arbitrary or capricious act, or failure to act, or a violation of a University, division, school, or center procedure or regulation by their supervisor, department chair, center director, or other administrator or administrative body. The University encourages individuals involved in such disputes to resolve the matter informally. This Policy is only to be used to resolve serious matters which meet the definition of a "grievable" matter and cannot be resolved through informal discussions or processes, and is only to be applied after reasonable efforts have been made to settle the dispute informally.

Review the full policy in the JHU Policy and Document Library.

What is a Grievable Matter

- A "grievable" matter is a complaint that a Grievant has been directly and adversely affected in their education, training, or professional activities as a result of an arbitrary and capricious act, or failure to act, or a violation of University or School policy or procedure by the University, School, or anyone acting officially on behalf of the University or School, other than the matters exempted below.
- A matter is considered grievable under this policy only if the nature of the complaint is not covered by any other established University or Division policy or procedure.

TRANSFER CREDITS

Standard WSE policy and limitations on MS transfer credits apply (<https://engineering.jhu.edu/graduate-studies/academic-policies-procedures-graduate/>). In addition, use of each transfer course toward satisfaction of a specific degree requirement must be approved in writing by the student's advisor.

Resources

HEALTH AND WELL-BEING

Johns Hopkins University is committed to helping you thrive personally and professionally and providing an environment that supports your health and well-being. We encourage you to seek support from the following JHU resources, particularly if you are experiencing anxiety, stress, depression, or other concerns related to your health and well-being.

The Office of Graduate Education and Lifelong Learning (GELL) serves the master's, doctoral, and postdoctoral communities of WSE and provides the support, resources, and information students need to succeed at the Whiting School.

To make an appointment to discuss a personal or academic challenge, please reach out to the Office of Engineering Student Support and Advocacy (<https://engineering.jhu.edu/studentaffairs/navigatingnonacademicissues/>), an office within GELL. Additional resources are available through the university Mental Health Services (<https://wellbeing.jhu.edu/MentalHealthServices/>). PhD students may choose to reach out to the university's PhD and Postdoctoral Fellows ombuds office (<https://ombuds.jhu.edu/>) as well for support.

If you are feeling overwhelmed and stress is impacting your mental health, you may contact Mental and Health Services for safe and confidential services. Students have a wide variety of services available, including workshops, group therapy, medication management, psychiatric assessment, and 24/7 crisis intervention services. All counseling services are offered free of charge to students. Please contact the university mental health services at 410-516-8278. To reach an after-hours on-call counselor, call 410-516-8278 and press "1".

WSE students can seek medical attention and health care services through the Student Health and Wellness Center (<https://wellbeing.jhu.edu/PrimaryCare/>). Services include acute and chronic illness care, alcohol and other drug problem assessments, allergy injections, international travel consults and immunizations, physical exams, and routine immunizations. Please contact the center at 410-516-8270.

CAREER DEVELOPMENT RESOURCES

The JHU Life Design Lab (LDL) (<https://imagine.jhu.edu/channels/life-design-lab/>) provides professional development and career services to master's students. LDL offers workshops, events, content, and drop-in office hours to help students through education, access to opportunities, and experiences to intentionally design your life on-campus and beyond.

DISABILITY SERVICES

Graduate students and learners with disabilities are served either by Homewood Student Disability Services (<https://studentaffairs.jhu.edu/disabilities/>) or the WSE Student Disability Coordinator. Visit the Disability Services (<https://engineering.jhu.edu/studentaffairs/academic-resources-and-policies/disability-services/>) page to find more information and how to request accommodations.