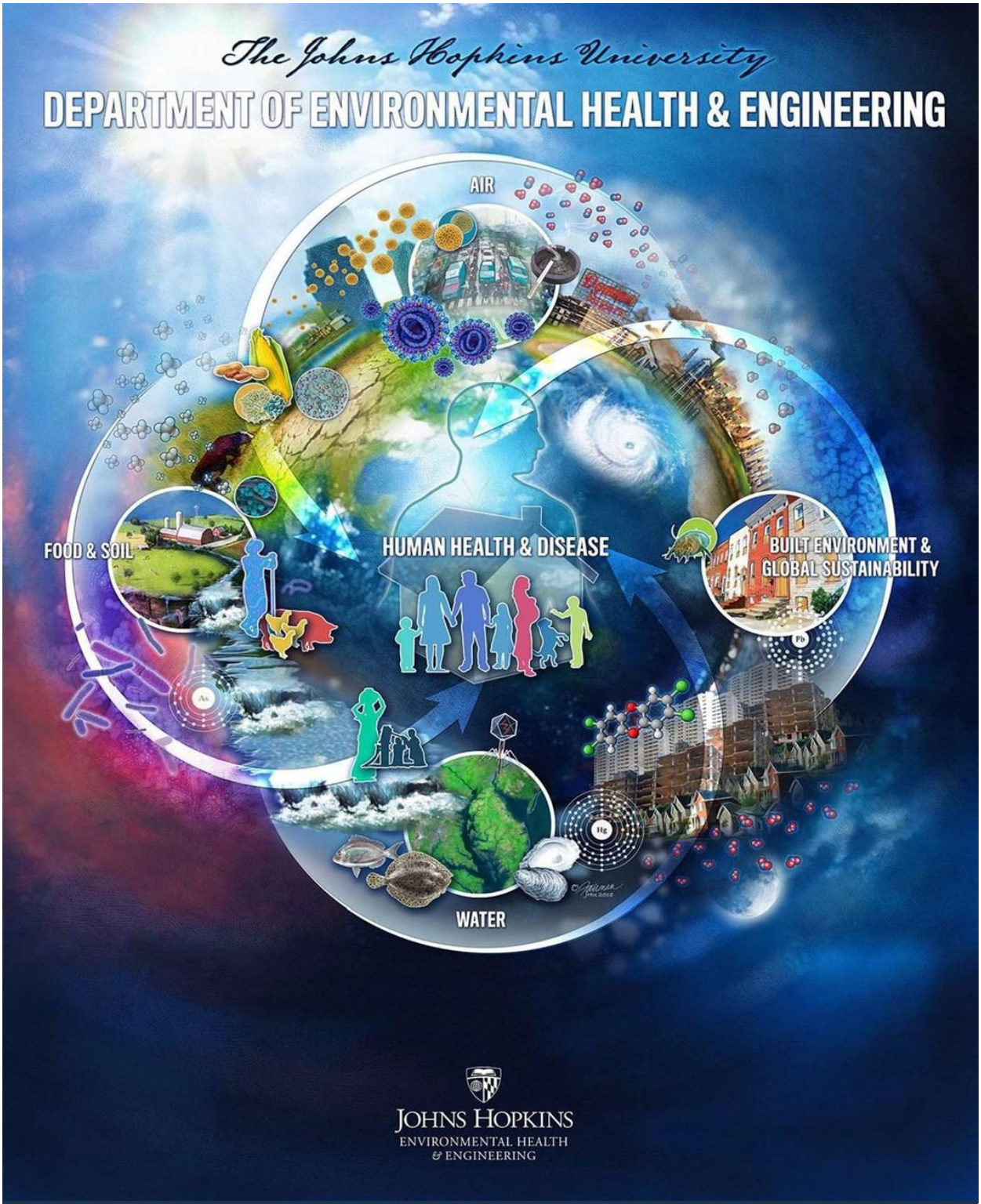

Student Handbook
2024-2025

JOHNS HOPKINS

ENVIRONMENTAL HEALTH

& ENGINEERING

Academic Year 2024-2025

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DEPARTMENT WELCOME & GOALS

Welcome from the Department Chair

It is with great pleasure that I welcome you to the Department of Environmental Health and Engineering (EHE) at the beginning of the 2024-2025 Academic Year. You are joining a department which is uniquely situated at the interface of engineering and public health.

We are committed to applying the principles of environmental health and engineering to solving the local and global environmental challenges of the 21st century and beyond. At no other time in history is environmental health more important than at the present time-in face of the looming existential climate crisis. EHE faculty members are at the forefront of their fields, seeking solutions to the world's most pressing environmental challenges. They conduct cutting-edge research and develop policy on topics including the physical environment (air, water, soil, food) and the fate and transport of pollutants through the environment and the resulting human exposures, their health consequences, and mitigation strategies. Their expertise ranges from basic physical, chemical, and biological sciences to population studies to engineering controls and policy interventions. Our faculty and students have applied their diverse skills to confront the major environmental challenges of the day including climate change and its health consequences, global pandemics, and environmental justice concerns.

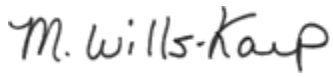
EHE is committed to a diverse and inclusive Departmental community that provides unparalleled training for the next generation of environmental scientists, environmental engineers, and public health practitioners to generate and translate fundamental science and engineering into transformative environmental policies and practice. Our program emphasizes the role of context and complexity, including the ways environmental, socioeconomic, biological, and other factors intertwine and interact to shape outcomes and possibilities.

The Department's master's, doctoral and postdoctoral programs offer trainees a wide range of opportunities to advance their careers in environmental health and engineering. Our broad, interdisciplinary approach creates a collaborative and supportive learning atmosphere for students with diverse backgrounds and interests, while assisting them in developing lifetime careers in environmental and public health research and practice. Our graduates are prepared for diverse careers, including working in academic research institutions, multiple levels of government, intergovernmental bodies, non-profit/non-governmental organizations, and private industry in the U.S. and in many countries around the world.

The 2024-2025 edition of our Department of EHE Student Handbook introduces you to the Department and helps you to set and meet your educational goals and to have a productive and enjoyable year. The Student Handbook summarizes the required and recommended courses and the requirements for each of the degree and non-degree programs offered by our department, and other essential information you will need. Because the Student Handbook is revised annually, please be sure to use this 2024-2025 edition of the Handbook in planning and following your academic program in the Department. Of course, this is not a contract, and changes do occur occasionally.

We are extremely excited about you joining us in our commitment to tackling the most pressing environmental challenges and preserving the health of our environment and its inhabitants. Faculty and staff join me in wishing you a rich and rewarding experience, both academically and personally. We look forward to getting to know each of you over the course of this academic year. Welcome!

Warm regards,



Marsha Wills-Karp, Ph.D.
Anna M. Baetjer Professor of Environmental Health Sciences Chair
Department of Environmental Health and Engineering Bloomberg Centennial Professor

Department Mission and Goals

Mission

EHE's mission is to use scientific and engineering principles to improve the health of the environment, communities, and people. The health and sustainability of humanity and life on Earth depends on protection against threats to our environment and ensuring the health of environmental resources and systems.

Paramount to our mission is a commitment to inspire and educate the next generation of diverse scholars to solve environmental challenges of the 21st century and beyond ranging in scale from molecular to global.

EHE is committed to fostering collaboration, encouraging diversity, and embracing inclusion of all people in our educational and research endeavors.

Goals of the Department

The goals of the Department of Environmental Health and Engineering are to:

1. pursue research to advance knowledge in environmental health and engineering through interdisciplinary approaches to research and discovery;
2. educate undergraduate, graduate, and postdoctoral students and fellows in the multidisciplinary fields that underpin environmental health and engineering and inspire them to become scholars, practitioners, and leaders in the field;
3. translate science into practice and policy by applying foundational knowledge to public health policy and practice in local, regional, national, and international settings in environmental health.

DEPARTMENT ORGANIZATION & DIRECTORY

Chair and Deputy Chairs

The Chair and Deputy Chairs are responsible for leading the academic and research vision of the Department.

Chair

Marsha Wills-Karp, PhD
Email: mwkarp@jhu.edu
Phone: 410-955-2452; BSPH E7527A

Deputy Chair

Gurumurthy Ramachandran, PhD
Email: gramach5@jhu.edu
Phone: 410-501-0182; BSPH E6634

Chair's Office

Christina Price
Administrative Specialist
Email: cprice@jhmi.edu
Phone: 410-955-2452; BSPH E7527

Marlee Rendel
Sr. Administrative Coordinator
Email: mrendel1@jh.edu
Phone: 410-955-5214; BSPH W7032

EHE Central Administration

EHE Administration oversees the Department's financial management, research administration, human resources and payroll, and degree program leadership.

Business and Finance Offices

Alex Galea, Sr. Administrator
Email: agalea1@jhmi.edu
Phone: 443-927-3492; BSPH E7523

Tracy Russo, Assistant Administrator
Email: trusso1@jhu.edu
Phone: 443-927-3371; BSPH E7523

Raisa Supan, Sr. Grants and Contract Analyst
Email: rsupan2@jhu.edu
Phone: 410-927-3495; BSPH, E7534

Jana Mihalic, Sr. Grants and Contracts Analyst
Email: jmihali1@jh.edu
Phone: 410-502-2054; BSPH E7534

C. Carter Polston, Executive Specialist
Email: cpolsto1@jhu.edu
Phone: 443-927-3370, WSE Ames 313A

Dave Kiefaber, Sr. Administrative Coordinator
Email: dkiefab1@jh.edu
Phone: 667 306 9560; WSE Ames 313

Cilicia Lawson, (BSPH) Administrative Coordinator
Email: clawso14@jhu.edu
Phone: 443-927-3494; BSPH E7031

Communications

Danielle Underferth, Communication and Marketing Manager
Email: dunderf1@jhmi.edu
Phone: 443-927-3496; BSPH E5132

Nicole Hughes, MA, Communications Associate
Email: nhughes4@jhu.edu
Phone: Phone: 443-287-2905; BSPH E7032

Whiting/BSPH School Labs

Makenson Deroly, Teaching Laboratories Coordinator
Email: mderoly1@jhu.edu
Phone: 443-927-3373; Ames Hall 314A

Academic Core Leadership

Academic Program Chair

Meghan F. Davis, DVM, Ph.D.
Email: mdavis65@jhu.edu
Phone: 410-614-8283; BSPH E7612

Program Directors

Director, Undergraduate Environmental Engineering Program

Sarah Preheim, PhD
Email: sprehei1@jh.edu
Phone: 410-516-6632
Ames Hall 205

Director, Masters' Programs

Megan Weil Latshaw, PhD
Email: mlatshaw@jhu.edu
Phone: 410-502-8948
BSPH E7533

Director, Doctoral Programs (DGS)

Meghan Davis, DVM, PhD
Email: mdavis65@jhu.edu
Phone: 410-614-8283
BSPH E7612

Academic Program Coordinators

Taylor Voelkel, Academic Program Administrator
Email: tvoelke3@jh.edu
Phone: 443-927-3497;
Ames Hall 311/BSPH E7518

Stormi Ryan, Academic Program Manager
Email: sryan39@jh.edu;
Ames Hall 311/BSPH E7518

PhD Track Directors

Track Directors are responsible for the track-specific curriculum and educational activities, including track-specific journal clubs and seminars, among other activities.

Exposure Sciences Environmental Epidemiology (ESEE)

Jaime Madrigano; BSPH || 973-865-4162 jmadrig4@jhmi.edu
Kirsten Koehler; BSPH E6632 || 410-955-7706 kkoehle1@jhu.edu

Toxicology, Physiology and Molecular Mechanisms (TPMM)

Thomas Hartung; BSPH W7035 || 410-614-4990 thartun1@jhu.edu
Mark Kohr; BSPH E7616 || 443-287-2721 mkohr1@jhu.edu

Health Security

Gigi Gronvall; 621 E Pratt St Ste 210 || 443-573-3308 ggronvall@jhu.edu
Tara Kirk Sell; 621 E Pratt St Ste 210 || 443-573-4504 tksell@jhu.edu

Environmental Sustainability, Resilience and Health (ESRH)

Roni Neff; BSPH, W7010 || 410-614-6027 rneff1@jhu.edu
Keeve Nachman; BSPH, W7010 || 410-502-7578 knachman@jhu.edu
Paul Ferraro; WSE, 309 Ames Hall || (410) 516-5127 pferrar5@jhu.edu

Geography and Environmental Engineering (GEE)

Scot Miller; Ames Hall Rm 308 || 410-516-7095 smill191@jhu.edu

DEPARTMENT OF ENVIRONMENTAL HEALTH AND ENGINEERING STUDENT ORGANIZATION (EHESO)

EHESO is the departmental student organization formed for the purpose of facilitating social, intellectual, and service-oriented interaction between students, staff, and faculty of the Department of Environmental Health and Engineering. EHESO unites students from the different disciplines of the Department and provides a forum for students to voice their opinions, concerns and share ideas and research. Networking opportunities, social events, student-sponsored conferences, and lectures are all benefits of EHESO. For further information, please contact JHSPH.EHESO@jhu.edu, visit the EHESO webpage, or EHESO Facebook page.

2024- 25 Board Members:

President: Grant Tore
Pres-elect: Elizabeth Chatpar

Treasurer: Shifali Mathews
WSE Educational Program Committee Representative: Daisy Grace
BSPH Educational Program Committee Representative: Erin Bennett
WSE Research Committee Representative: Kate Burgener
BSPH Research Committee Representative: Zachary Smith
BSPH Practice & Policy Committee Representative: Kate Marquess
WSE Practice & Policy Committee Representative: Stephanie Wilcox
WSE Sustainability Leadership Council: Dylan Gaeta
BSPH Student Assembly Representative: Dionne Mitcham
BSPH Doctoral Student Council: Rashida Callender
IDARE Representative: Salvatore Milletich
Postdoctoral Representative: Dr. Jack Thornton
BSPH Master's Student Representative: Riley Demo
Faculty Representative: Dr. Sara Lupolt

Secretary, WSE grad rep, WSE masters student rep all TBD

GRADUATE DEGREE PROGRAMS IN ENVIRONMENTAL HEALTH AND ENGINEERING

Overview of EHE Graduate Degree Programs

The Department's cross-divisional affiliation enables us to offer a range of interdisciplinary graduate programs at the intersection of public health and engineering. Our interdisciplinary approach enables students to design a course of study that can be tailored to meet their specific career goals. Our students benefit from broad and deep expertise in areas ranging from the science of biological processes and environmental engineering, to population exposures and health outcomes to sustainability and resilience of our infrastructure to pandemic surveillance and preparedness.

Our objective is to develop solutions to key challenges in local, national, and global environmental health, from the molecular to population-wide impacts. This is accomplished by investigating sources and distributions of exposures, mechanisms of action, biomarkers of exposure and biological effects, individual and population-based responses, and susceptibility factors at both the individual (molecular, cellular, organ, whole-body) and societal levels. In addition, environmental risks are assessed, and we devise and evaluate both prevention and intervention strategies.

Our graduates are prepared for careers in academia, government, national laboratories, non-profit organizations, and the private sector, both nationally and internationally.

EHE Graduate Program General Policies and Procedures

Students are expected to adhere to the policies stated within this EHE Student Handbook and their respective program: the BSPH Student Policies website and the Policy and Procedure Manual, or the WSE Student Policies website.

These policies include those related to grade requirements, registration, academic progress, deadlines, satisfactory completion of exams, and BSPH's Academic Ethics Code or WSE's Academic Ethics Code. Students who fail to follow or meet the established policies may be subject to dismissal.

Cumulative GPA

The Bloomberg School of Public Health places students with a GPA falling below 2.75 on academic warning. They will have one term of registration in which to raise their GPA above the threshold for their degree. The Academic Program Manager will notify students placed on academic warning and their performance will be reviewed by the Department's Educational Programs Committee (EPC).

All recommendations about academic standing will be then presented to the Department's Executive Committee for final disposition. BSPH students not meeting the minimum GPA after one term may be granted additional term(s) on academic warning if academic progress has been shown in the cumulative GPA; that approval beyond one term must be reported to the School's

Committee on Academic Standards.

Students on academic warning must meet with their academic adviser and program director (or academic program administrator) each term to review their academic plan and receive approval for their course schedule prior to registering for courses. Students with a cumulative GPA below the minimum may not register for more than 18 credits per term. Any repeated courses count towards this 18-credit limit.

Code Of Conduct

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.

PhD Student Employee Union and Collective Bargaining Agreement

Information about the TRU-JHU PhD Student Union and the Collective Bargaining Agreement (CBA) can be found on this website: https://provost.jhu.edu/education/graduate-and-professional-education/phd-union/.

- PhD students in the Environmental Health and Engineering program who receive work appointments and/or health insurance premium subsidy through Johns Hopkins University are defined as PhD Student Employees under the Collective Bargaining Agreement (CBA) dated March 29, 2024-June 30, 2027.
- This agreement has established regulations regarding stipends and wages, work hours, benefits, and conditions of appointment, many of which, but not all, are described below.
- Eligible PhD students will be contacted by the Union and may elect to join the union and pay dues or pay agency fees if they do not join the union. All eligible PhD students are under the CBA, regardless of Union membership.
- The CBA only covers work, which is limited to a max of 20 hours per week on average for stipend funding. A PhD Student Employee may voluntarily elect to participate in supplemental-funded activities beyond the 20 hours per week on average, in alignment with their funding sources and visa guidelines (for international students).
- Academic policies for your PhD program are not part of the CBA and are defined elsewhere in the handbook.

This is just a summary, not the actual terms of the CBA. To review the actual terms of the CBA please click on this link.

CBA Summary

- Compensation for PhD Student Employees
    - The minimum guaranteed funding for the first 4 years for all BSPH PhD student employees. Some departments and programs may provide more in their offer letters.
    - Academic year (AY) 24-25: guaranteed minimum stipend of $47,000 effective July 1, 2024.
    - The minimum hourly appointment rate for AY 24-25 is $25.41/hour for supplemental appointments and hourly wage earners.
    - PhD student employees with external awards paid through the University will have their compensation increased to the minimum stipend, if it is below the guaranteed minimum, during the period of guaranteed funding.
- Benefits
    - Enrollment information will be available through HR Benefits for Students and Learners and communications will be sent in advance of benefits election periods.
    - Paid by the University
        - The University will pay the premiums for University Student Health Benefits Plan (SHBP), including dental and vision coverage, employee coverage for employees in full-time resident status during the terms of full appointments.
        - PhD student employees will receive subsidies of $4,500 per child per year for eligible children under 6 years and $3,000 per child aged 6-18 years or adult dependent, with a maximum of $12,000 per family per year, in installments throughout the year. Enrollment information will be available during the benefits election period.
    - Reimbursed by University/Departments
        - The University will pay the cost of the health insurance premiums for eligible dependent children and spouses unable to work in the US, including dental and vision. Reimbursement procedures will be available on the HR Benefits website.
        - International students will be eligible to apply to a yearly fund to cover required visa fees. Further information will be made available once the application site is set up.
        - Students will be eligible for reimbursement for MTA All Access College Transit Passes or DC U-Passes. Registration and enrollment information will be available on the HR Benefits website.
- Holiday/Vacation/Sick/Bereavement and Visa-Related Leaves
    - All University holidays are recognized, dates can be found here and here.
    - PhD student employees can take up to 15 vacation days per year. Additional time can be given by a supervisor.
    - PhD student employees can take up to 15 sick days per year with an additional 5 days if the student is primary caregiver.
    - PhD student employees can take up to 5 days of bereavement leave for the passing of immediate and extended family members and close friends, with 1 additional day for those needing international travel.

    - International PhD student employees who are required to travel out of the country in order to maintain their immigration status necessary to be able to continue their program at the University are eligible for up to fourteen (14) days with pay during the period of such travel.
- New Parent Leave and Leaves of Absences
    - PhD student employees who are new parents are eligible for 8 weeks of paid leave following birth or adoption, with an additional 4 weeks for birthing parents. NOTE: PhD students who want to take academic leave following the birth or adoption of a new child should use the New Child Accommodation policies.
    - Leaves of Absence (LOA), including family leave, medical leave, and personal leave, are governed by the University leave policies.
- Work Hours
    - No PhD student employee shall be required to perform work for more than 20 hours/week on average.
    - Teaching Assistantship (TA) hours are included in the 20 hours of work that may be assigned regardless of whether the TA is part of an academic learning experience or not.
    - Academic coursework, exams, and research related to your academic learning and dissertation are not considered work and are not included in the work hour limitations.
    - There are no restrictions on work external to Hopkins except when decreed by funding source or visa status, as long as academic progress is not impeded.
    - All work appointments (stipend or supplemental funding) require an appointment letter. Appointment letters will define the expectations and requirements of the teaching, research, or other University activity appointment. The first set of appointment letters will be generated in mid-to-end of August 2024. A PhD student employee can expect to receive an appointment letter for each work activity, which may result in multiple appointment letters during the course of the year. Students should contact EHE_PhDCBA@jhu.edu with any questions.
- Union Representation
    - All PhD student employee directory information will be sent to the Union unless restricted. Supplemental information will require a FERPA consent form available on SIS self-service.
    - Union Representatives are current PhD Student Employees who are elected/selected to help their fellow PhD Student Employees navigate work-related disciplines, grievances, and other procedural/policy issues. Contact TRU-JHU with questions about your division's specific Union Representatives.
    - TRU-JHU Contact Information
        - Website: https://trujhu.org/
        - Phone: (443) 281-9462
        - Address: TRU-UE Local 197, PO Box 41149, Baltimore, MD 21203
        - Email: trujhu@gmail.com

Information for BSPH students

All members of the Johns Hopkins community are responsible for immediately informing the Academic Ethics Board of the Bloomberg School of Public Health of any suspected violations of its Constitution. The Ethics Board, composed of six students and four faculty members, is responsible for implementing its Constitution according to the procedures set forth therein. This includes formal hearings of suspected violations.

Allegations of fraud in research by students will be handled and resolved according to the policies and procedures specified in Faculty PPM 7 – Research Misconduct. Penalties for students who are found responsible for engaging in fraud in research under Faculty PPM 7 may be selected from among the penalties specified in the Student Academic Ethics Code (Student PPM 1) as appropriate.

Allegations of violations of academic integrity by students in the School are covered under the policies and procedures contained in PPM for Students - 1 (Academic Ethics) and the School's Academic Ethics Code.

Allegations of unsatisfactory performance or unacceptable behavior by faculty are covered by PPM Faculty - 8 (Procedure for Handling Allegations of Unsatisfactory Performance or Unacceptable Behavior), and allegations of fraud or misconduct during the conduct of research by faculty are covered by PPM Faculty - 7 (Fraud in Research).

Allegations of misconduct by staff are covered by policies and procedures established by the University Office of Human Resources as stated in the Personnel Policy Manual. (This information is taken from the School's POLICY AND PROCEDURE MEMORANDUM STUDENTS – 1, SUBJECT: Academic Ethics).

Information for WSE students

All members of the Johns Hopkins community are responsible for immediately informing the WSE Dean of Student Life of any suspected violations of the Code of Conduct. 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.

Human Subjects Research

The Johns Hopkins University is committed to protecting the rights and welfare of all individuals participating as subjects in research. To meet this obligation, the Bloomberg School has two on-site Institutional Review Boards and an external IRB (the Western IRB) that review studies on the School's behalf. All faculty and students who are involved in human subject research must meet the compliance training requirements of the Bloomberg School IRB. It is the responsibility of

students and faculty to make certain that approval is obtained from the IRB before beginning any research involving human subjects. The IRB is also responsible for determining whether certain research activities qualify for exempt status under the regulations and institution policy.

For IRB announcements and updates, and for additional information and requirements on conducting human research, please contact either the: Bloomberg School's IRB Office, Room E1100, Wolfe Street Building (410-955-3193); email at jhsph.irboffice@jhu.edu, or Homewood IRB Office (410-516-4820); email at levans22@jhu.edu; https://homewoodirb.jhu.edu/participants/

Animal Research

The Johns Hopkins University is committed to protecting the rights and welfare of animals used in research. All students involved in animal research must first complete an online training module, Animal Care and Use, available through myLearning in the JHU Portal, before beginning work with animals. Additional training may also be required. Students must also be listed as student investigators on projects they are working on that involve animals.

The care and use of animal subjects are regulated by the Animal Welfare Act, which is implemented by the U.S. Department of Agriculture. The University has one assurance with the federal government (the Office of Laboratory Animal Welfare [OLAW]) and, therefore, the University has one animal care and use committee (IACUC). Faculty from the Bloomberg School, the School of Medicine, and the Homewood campus serve on this committee. An approved protocol MUST be obtained before animals can be purchased. Questions regarding submission of animal research protocols should be addressed to the IACUC Office at 443-287- 3738. Animal care and procurement are under the purview of Johns Hopkins Research Animal Resources.

For those exposed to animals either directly or indirectly, their bedding, waste products, fresh animal tissues, or equipment involved in animal use and care, Johns Hopkins requires the following to reduce health risks associated with animal exposures. You may view the full animal research policy here.

Accounts

Students should monitor their SIS account on a monthly basis so that problems may be resolved in a timely manner. The Department may deposit funds for tuition and certain fees into accounts, but the student is responsible for expenses not covered by the Department. These charges include late registration fees, even when the Department pays for tuition costs. For additional information see BSPH Student Accounts and WSE Student Accounts.

Leave of Absence

Academic leave of absence refers to, and is limited to, students in a degree program requiring continuous enrollment who, while in good academic standing, are forced to withdraw temporarily from graduate work due to maternity/paternal/family leave or reasons beyond their control, such as illness, military service, or pressing personal reasons justifying an interruption of the degree program. Students may be given a leave of absence for other reasons (e.g., involuntary, medical leave). Leaves of absence are typically limited to one year except for military service.

Students requiring additional terms of leave beyond one year must reapply. Students who have had federal financial aid may be subject to additional restrictions and should check with the Financial Aid Office before extending a leave of absence. No more than two years of leave may be granted.

If it becomes necessary to take a break from studies, students should contact their adviser 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.

SPH Student LOA Policy
WSE Student LOA Policy and Form

International Travel

The following policy applies to students enrolled in BSPH. The Whiting School of Engineering does not have a formal travel policy; however, resources and recommendations are offered.

Students enrolled in WSE should check the Travel Resources page provided by the Office of Graduate and Postdoctoral Affairs.

As a graduate student at the Johns Hopkins Bloomberg School of Public Health, you may have an opportunity to supplement your education or conduct research in another country. These opportunities often enrich the academic curriculum, contribute to dissertation research, and allow you to apply the knowledge you obtain in the classroom to the world's communities. While the School encourages participation in these kinds of experiences, international tensions can be high and the resources on **the U.S. international travel website** may assist you in making an informed decision.

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 adviser 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.

Immunizations

If you are traveling to a less developed part of the world, you should be certain to contact your health care provider or the Johns Hopkins International Travel clinic to learn about recommended immunizations and other matters to guard your health. Located on the East Baltimore campus, you can reach the International Travel Clinic by telephone at 410-955- 8931.

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 adviser 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 of the world, 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 the University & Health System page.

Parental Academic Accommodations

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

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. The full policy is found here.

Vaccinations

All students are required to comply with University guidelines regarding COVID- 19 and influenza vaccinations. See the University's COVID-19 website for up-to-date information.

Student Academic Grievance Procedure

On occasion, problems may arise between students and other members of the JHU community. The purpose of these guidelines is to help resolve disputes informally between students and other members of the Hopkins community. The student is encouraged to make a good faith

effort to resolve the dispute informally prior to initiating formal grievance procedures. For those disputes that cannot be resolved informally, a BSPH Student Grievance Procedure and a WSE Student Grievance Procedure has been created to provide students and student groups with a formal process to seek resolution of a grievance. In certain circumstances, other governing bodies also assist in these situations. A student who has a concern about an academic decision or act of a faculty, staff member, or student of the Department of Environmental Health and Engineering, should follow the steps outlined below.

1. The student should first approach the person or parties (e.g., academic adviser, related office, etc.) directly involved as soon as possible to discuss questions or concerns.
2. If the issue or concern is not resolved informally, the student should 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. 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.
3. If the matter is not resolved within the Department or requires review and/or decision at the School or University level, a student should refer to the Bloomberg School's Student Grievance Procedure document or the Whiting School of Engineering's Grievance Procedure document.

Health And Well-Being Resources

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.

Information for students enrolled in BSPH

The Office of Student Life at BSPH is available to assist students by providing support in navigating resources pertaining to personal and academic challenges. If you would like to schedule a one-on-one appointment with a staff member in the Office of Student Life, you can contact jhsph-studentlife@jhu.edu or 410-502-2487.

Students can also contact the Johns Hopkins Student Assistance Program (JHSAP) which provides resources to assist students across the Johns Hopkins community with any pressures and difficulties they may face during their academic careers.

Getting help is free, convenient, and confidential. Counselors are available to speak with you 24 hours a day, 7 days a week at 443-287-7000. Services include short-term counseling, crisis response, healthy relationship support, school-life coaching and adjustment and educational workshops.

Students have access to University Health Services (UHS) which offers primary care and mental health clinical services. Primary care appointments can be made by calling 410-955- 3250. UHS-Mental Health provides psychiatric assessment and follow-up, medication management and individual psychotherapy. To make an appointment, call 410-955-1892.

If you or someone you know is in crisis, call JHSAP at 443-287-7000 for help immediately. In an emergency, call 911 or go to the nearest emergency room.

Information for students enrolled in WSE

The Office of Graduate Academic Affairs serves the master's, doctoral, and post-doctoral 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 Allison Leventhal, Outreach and Support Case Manager at aleventhal@jhu.edu (410-516-2328), or to Christine Kavanagh, Assistant Dean for Graduate and Postdoctoral Academic Affairs at christinekavanagh@jhu.edu (410-516- 0777). Additional resources are available through the Homewood Counseling Center.

If you are feeling overwhelmed and stress is impacting your mental health, you may contact the Counseling Center 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 Counseling Center 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. 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 Professional Development and Career Office (PDCO) provides professional development training and career services to support PhD students and Postdoctoral Scholars in designing their life. The PDCO supports academic careers by providing grant writing workshops, teaching opportunities at local undergraduate institutions and through an annual academic job search series. It also supports career exploration outside the academy by hosting alumni career panels, organizing an alumni mentorship program, running leadership workshops and by offering paid internships in science policy, consulting, business development, etc.

PDCO staff can also meet with PhD students or post-doctoral fellows one on one to discuss their specific career goals. View all the PDCO has to offer at their website and open the monthly email list of events happening across the university.

PHutures is a professional development and career connections office serving all WSE PhD and Postdoctoral students. PHutures helps prepare and empower PhD and Postdoctoral students for internships and career within and beyond Johns Hopkins with monthly career panels, workshops, seminars, and personalized consultations. The WSE Life Design Lab (LDL) 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.

DOCTOR OF PHILOSOPHY DEGREE PROGRAMS IN ENVIRONMENTAL HEALTH AND ENGINEERING

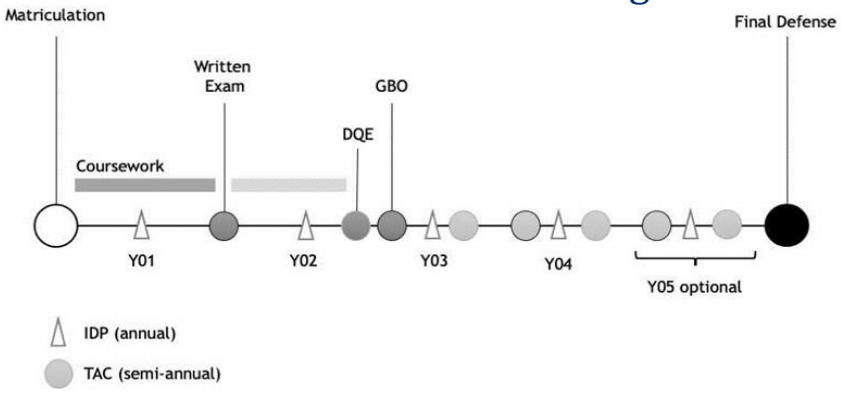
The Doctor of Philosophy (PhD) degree program is a full-time degree program that offers a unique interdisciplinary learning experience where the course of study is individually tailored based on the student's interest in understanding and finding solutions to pressing problems in environmental health and engineering.

The goal of PhD training in EHE is to prepare graduates to engage in scholarship and professional practice that creates new knowledge, use research to transform practice and improve the health of the environment and the public, and effectively communicate research findings to the public. The program requires didactic coursework followed by an average of four to five years of research towards a doctoral dissertation (also referred to as a thesis on official forms and committees).

Training is offered through a core curriculum that is required of all Ph.D. students in the Department with the addition of track/program-specific requirements and focused courses in specialized areas. Students are expected to tailor their curricula, working with their advisers to create a comprehensive plan of study and research. PhD theses must be based on original research, worthy of publication, and approved by the Department and a committee of thesis (dissertation) readers. PhD students must also be engaged in primary data collection as a component of their dissertation research or embedded in other research during their training here.

Students in all of our programs have the unique opportunity to take classes on both the Homewood campus (WSE) and at the Bloomberg School of Public Health (BSPH) on the East Baltimore campuses in order to complete their degree requirements.

Doctoral Program Timelines



DQE: Department Qualifying Exam; **GBO:** Graduate Board Oral Exam; **IDP:** Individual Development Plan; **TAC:** Thesis Advisory Committee Meeting; **Y:** academic year

Doctoral Training Competencies

We expect graduates of the doctoral programs to be able to:

- Identify common environmental health hazards and risks; explain the role of law, policy and regulation in environmental health protection;
- Understand the interdisciplinary nature of environmental health research;
- Develop a depth of understanding in a specialized area of knowledge within one of the Department's academic tracks, on par with others worldwide;
- Develop a set of research tools and skills needed to conduct independent research;
- Evaluate and critique a body of literature in order to assess the state of knowledge and research gaps, and write and critique a grant proposal;
- Utilize quantitative techniques to support research designs and perform data analyses;
- Develop reasoning skills that can be applied to new and unanticipated issues;
- Develop, conduct and defend original research that makes a significant contribution to our understanding in this particular study area, is worthy of publication in a peer-reviewed journal and leads to a completed thesis;
- Communicate research results to technical and lay audiences;

EHE PhD Program Requirements

- PhD students based in BSPH must complete at least 64 term credits of coursework and those based in WSE must complete 20 semester credit hours per semester with a cumulative 3.0 GPA (B or higher average).
- All students are required to take safety and responsible conduct of research training.
- All students must attend and participate in the Student Research Seminar throughout the program and present for this seminar at least once per year during their second, third and fourth years of the program.
- Successfully pass the Department Comprehensive Written Examination (some tracks - see specific tracks).
- Pass the Departmental Qualifying Oral Examination (DQE).
- Pass the Schoolwide Preliminary Schoolwide/Graduate Board Oral Examination.
- Develop and conduct independent research culminating in a doctoral dissertation in an approved format; Students work closely with their adviser(s) and Thesis Advisory Committee to develop their research questions and design their projects to address those questions and to conduct the dissertation research.
- Present their dissertation research in a final defense seminar (open to the public).
- Successfully defend their dissertation during the Final Oral Examination.
- Translate research findings into practice.

Program options

Students in the PhD program select from one of five areas:

- Program in Environmental Health
    - Track in Exposure Sciences and Environmental Epidemiology (ESEE)
    - Track in Environmental Sustainability, Resilience, and Health (ESRH)
    - Track in Health Security (HS)
    - Track in Toxicology, Physiology, and Molecular Mechanisms (TPMM)
- Program in Geography and Environmental Engineering (GEE)

Ethics

- BSPH PhD students must take PH.550.860.82 Academic and Research Ethics in the first term in which they are registered. Please note, both modules must be completed in order to satisfy requirements for the Academic and Research Ethics course.
- WSE PhD students must complete EN.500.603 Academic Ethics. New students are automatically enrolled in this course.

Responsible Conduct of Research Requirement

The Responsible Conduct of Research Requirement needs to be completed by all doctoral students in BSPH and WSE.

- All WSE doctoral students must complete the in-person AS.360.625 Responsible Conduct of Research course by the end of their first year of enrollment. Please see the Whiting School of Engineering Academic Affairs Research office for the most up-to-date information.
- For students in BSPH on federal training grants, this requirement should be completed as soon as possible within the first year the trainee is appointed. This requirement can be met by completing either of the following two courses: 550.600 Responsible Conduct of Research or 550.860 Academic & Research Ethics at BSPH.

Required Courses

Data Analytics in Environmental Health and Engineering (EN.570.616; most typical for GEE and TPMM): Data analytics is a field of study involving computational statistics, data mining and machine learning, to explore data sets, explain phenomena and build models for inference and prediction. Environmental and public health applications are emphasized, with *modeling techniques and analysis tools implemented in R*. This course may be taken in first or second year.

- **OR Biostatistics (140.621-3) and Epidemiology (340.751-3) (most typical for ESEE, ESRH, HS)**

Advanced Environmental Health: A survey-type course with different topics in each offering, bringing together students from WSE and BSPH in groups, to examine the environmental engineering (sources, transport, fate, and transformation), health (exposure, toxicity), and regulatory framework (policy, legal) of selected chemicals/substances.

Departmental Seminars and Journal Clubs: In addition to attendance at formal courses, students are required to attend program- and track-specific seminars.

Student Research Seminar: All doctoral students must register for and attend the EHE Student Research Seminar (PH.180.860) where students will attend and present (once per year in years 2-

4) their ongoing research and the EHE Grand Rounds in which Hopkins faculty, scientists from other institutions, and alumni are invited to present cutting-edge research findings. Additionally, each program and track have specific journal clubs or seminars. If the student is unsure of their programmatic requirements, it is their responsibility to contact their adviser and academic program administrator for clarification.

Doctoral Track/Program Journal Clubs/Research Seminars: All students are required to attend at least one track/program specific journal club and/or seminar course. See individual tracks for details. Students are allowed to take one term (semester) of journal club outside of their track per year, although it is strongly recommended that students a) discuss which other journal club to take with their advisor, and b) that they do so later in the year.

Annual EHE Research Retreat: All students are required to attend the Departmental Annual Research Retreat which is held during the winter intersession in January of each year. Beginning in the second year of their program, students are required to present their research in the annual Departmental research retreat.

Teaching Assistant Requirement

Teaching Assistant positions provide students with an opportunity to develop their teaching and interpersonal skills, to work professionally with faculty and fellow students, and to contribute service to the Department.

Policy for Students

All PhD students are required to serve as TAs, particularly during the second, third and fourth years of the program. These requirements will be outlined in the appointment letters. Students are allowed to TA outside the department with their adviser's permission, but these external positions will not count for the academic requirement. Students on federal training grants should seek further advice from department administration as there are restrictions on the number of hours that can be worked above and beyond academic activities.

TA Training

Students are required to complete either the SPH or WSE TA training prior to starting a required TAship, typically during their first year in the program. They additionally should register for the course Teaching Environmental Health (SPH 180.613) in each term or semester in which they complete their required annual TAship. The SPH TA training course is offered twice per year- July -December and January-June. The WSE TA training course also is offered twice a year in fall and spring. The academic program administrator will verify the student has completed the training prior to starting a TA position.

The Teaching Academy offers additional resources around the pedagogy of teaching. To prepare graduate students so they may thrive in higher education as academic professionals once they graduate, this academy offers teacher training and academic career preparation opportunities through:

- Courses
- Workshops
- Teaching practicums

- Teaching as research fellowship appointments
- Individual consultation

Teaching Academy also offers a three-day teaching institute for students to advance the development of university-level educators by enhancing Course teaching skills. This is a free institute and offered at the BSPH campus early June.

CTL's "Teaching Assistantship Training" covers the learning objectives required to align with completion of Phase I of the Teaching Academy's "Preparing Future Faculty Teaching (PFFT) Certificate Program".

Gordis Teaching Fellowship in Undergraduate Education

Each year the Offices of the Dean of Arts and Sciences and Bloomberg School of Public Health sponsor the Gordis Teaching Fellowship Program. The fellowship is designed to foster innovation in the undergraduate public health curriculum, to give advanced graduate students in the Bloomberg School of Public Health experience teaching their own undergraduate courses and offer undergraduates the opportunity to take seminar-size classes with 19 or fewer students. The Gordis Teaching Fellowship program supports up to 10 fellows per year to teach small, seminar-style courses in the undergraduate program in public health studies. There is the potential for EHE doctoral students to apply for this opportunity after consultation with their adviser. Graduate students regard this as a rare opportunity to promote themselves academically.

General PhD Program Policies

Financial Support

Students typically will receive stipend support as explained in the Collective Bargaining Agreement dependent upon continued satisfactory progress while they are in a full-time, resident status for the duration of their PhD program. Admission offer letters cite specifics for each student and program. This funding includes complete coverage of tuition and other student fees, health and dental insurance, and a stipend to cover living expenses. Please see Provost's page on the Collective Bargaining Agreement for more information on the aspects of the stipend. Student funding beyond five years is not available.

Funding mechanisms include training grants from NIH, NIOSH, NSF, and other federal agencies as well as research assistantships on federally funded research projects. Students receiving funding from these sources are required to meet the administrative requirements for these funding sources. International students cannot be supported by federally funded training grants, and typically are funded on research projects. Students should contact the EHE Business Office if they have any questions about their award or accounts. Students are encouraged to visit the school's website for additional BSPH funding opportunities. WSE Fellowships and Financial Aid information can be found here.

Trainees are required to devote FULL TIME effort to the training program. Students should consult their appointment letters for additional details and seek clarification from department administration if they have any questions. Students on federal training grants may have additional restrictions.

There may be extra charges for taking classes in either the intersession or in summer. It may not be covered by your departmental aid. Check with the Office of Student Accounts and your department academic staff before registering.

Students who switch to nonresident or part-time status are generally responsible for their own fees (including health insurance) and tuition. Exceptions may exist in specific programs- students are encouraged to double check with their department academic staff for more information. The University does not provide housing or any housing/parking/commuting subsidy for graduate students. There will be a "relocation grant" for eligible new PhD students. Please see Provost's page on the Collective Bargaining Agreement for more information on that grant. The 12-month estimated cost is important for incoming international graduate students (note that for the purposes of the I-20, there may be additional costs assigned for each dependent of an international student).

Course Waivers

A waiver request will be considered when a student has taken a similar, graduate-level course(s), with a passing grade, in another division of JHU or another university. A waiver will not be granted for courses in which the student received less than a B or did not receive a letter grade. Please note that the approval of a waiver does not reduce the total number of credits a student is required to earn to meet graduation requirements. Students should reach out to the course director for the course that is requested to be waived and attach supporting documentation (i.e., syllabus), requesting review to determine if the prior course meets the scope and depth of the required course. An email from the course director confirming the standing of the waiver should be forwarded to the Doctoral Program Director and the academic coordinator(s). Waivers and substitutions are only approved by the Doctoral Program Director, not the adviser. The academic program coordinator will notify the student of the outcome and a copy of the form will be kept in the students' academic file.

Doctoral Registration

In addition to the residency requirement of BSPH and WSE, full-time doctoral students in the Department must register on a continuous basis for a minimum of 16-credits each academic term (BSPH) or 20 credits each semester for students matriculating through WSE. Registration is not required during the summer* or interim sessions and tuition funding is typically not provided for these terms. Summer registration is required for both WSE and BSPH. BSPH students should register for at least 12 research credits while WSE students should register for at least 9 credits of research in the summer. Registration is not required during the winter and summer intersessions. Registration is not required during the summer* or interim sessions and tuition funding is typically not provided for these terms. All students must discuss course registration with their adviser before each term starts.

Students who fail to register by the published deadlines during a regular academic term (or academic semester) will incur a late registration fee from the School that must be paid by the student. If a student still does not register after the add/drop deadline for the term (or semester), they will be considered withdrawn by the School and the Department.

Faculty Advisers

PhD students are typically assigned a faculty adviser once they are admitted to the program. In

the ESEE, HS, and ESRH tracks, and the GEE program, the faculty adviser assigned to the student becomes their research adviser. In the TPMM track, students are assigned an academic adviser who serves in this role. This initial academic adviser may or may not become the student's research adviser. As early as the first year, students in the TPMM track will identify a thesis research adviser to serve as the student's adviser for the conduct of their research. Periodically, some students in other tracks may be assigned an academic advisor who may transition to research advisor or be replaced.

The adviser serves as the primary contact for the Department and will assist the student with course selection each semester, planning research rotations if appropriate, preparation of seminar presentations, and the interpretation of Departmental and School policies. Primary advisers also serve on the doctoral Thesis Advisory Committee and will serve as one of the examiners for the advisee's Departmental Qualifying Oral Examination, Preliminary Graduate Board Oral Examination, and Final Oral Examination. This affiliation, however, does not exclude significant interactions with other members of the faculty. The faculty adviser and academic program coordinator must approve student registration and course plans as applicable.

Per University policy, faculty members on the professorial track (assistant, associate, or full professor) are eligible and expected to advise doctoral students. Faculty members on the scientist track (assistant, associate, or senior scientist) or research professor, may not serve as the primary adviser. Students may request that a member of an organization outside Johns Hopkins University serve as a non-voting member of their committee. In such cases, students and their adviser need to request an appointment at the Associate level for this committee at least three months in advance of their service.

All BSPH advisers are subject to the schoolwide rules for Faculty Academic Roles by Rank "Academic_Programs_01_General".

Each academic year, the adviser and the student must review academic progress and determine plans for the future year that will keep the student on track toward graduation. This information is also reviewed by the director of graduate studies and the academic program administrator.

Changing Advisers

Doctoral students may find that their dissertation research interests align with another Department faculty in the same or different Track. If so, they must discuss the reasons for changing advisers with the Doctoral Program Director and submit a request to the academic leadership team. Such changes are considered upon mutual agreement and availability of an appropriate adviser. Changes in tracks may result in additional course requirements.

Internships

PhD students are encouraged to attend conferences and should discuss such participation with their advisor. Specific funds to support such activities may or may not be available; students should discuss sources of funding for conference attendance with their advisor and, if applicable, training grant director. Beyond conferences, PhD students may participate in specific workshops, internships, fellowships or other programs. If the total time spent on these activities in a given academic year is greater than one week in duration, prior approval of both their advisor and education leadership is needed. After discussion with their advisor, students should submit their

requests via email to the academic coordinator and doctoral program director and include their advisor on the email. If the total duration of all such programs is less than a week in any given year, prior approval of education leadership is not required, but students should discuss such opportunities with their advisor.

Attendance

Students must attend all classes, including journal clubs, Grand Rounds, and other seminars, and actively participate. Scheduling conflicts that arise must be discussed with the student's adviser. Since research and practice are fundamental parts of the curriculum, it is required that students work (with the approval of their adviser) in the laboratory or pursue other research, including participation in public health practice opportunities during semester or term breaks. Non-compliance with the attendance policy is grounds for probation or dismissal from the program.

Vacation

Please see Provost's page on the Collective Bargaining Agreement for information regarding vacation for PhD students.

Students Working in Laboratories

Information for WSE students

An email invitation will be sent during the first week of classes confirming the Safety Seminar Dates for each academic year. Attendance at ALL these
September safety meetings is required if you intend to do any lab or field work. This applies to all of our graduate students and most of our undergrads. Be sure to sign the roster so that we can confirm attendance. Attendance is mandatory for anyone planning on doing any:

- lab-based research (whether for credit or for pay or even simply for the experience)
- field-based research
- students enrolling in 570.304 Environmental Engineering and Chem Lab; 570.411/610 Engineering Microbiology; 570.452/652 Experimental Methods

This safety training needs to be completed each Fall semester for any student in the above categories. If there is a conflict with another class, students should ask the instructor whether they can be excused from the other class.

Information for BSPH students

The department will host a laboratory safety seminar at least once per year and all students working in SPH labs are expected to attend. PIs (principal investigators) may require additional training on a case-by-case basis for students.

Assessment of Progress

To monitor and document adequate academic performance and progress, the doctoral student's grades and activities are subject to continual review. This information is collected by the academic program administrator and reviewed by the adviser, the Doctoral Program Director, along with the Educational Program Co-Chairs.

In addition to maintaining satisfactory academic progress and being in good standing with departmental standards, each student in BSPH must successfully complete a comprehensive written examination [for the ESEE, TPMM, ESRH, and HS tracks], departmental oral qualifying

evaluation (DQE), and the preliminary Graduate Board Exam (School-wide preliminary oral examination). Failure to successfully complete any of these requirements will result in dismissal from the program.

Students are expected to earn As and Bs in EHE coursework, maintain a cumulative GPA of 3.0, and pass the Department comprehensive exams at the designated level.

Other grounds for removal from degree candidacy are:

- Any grade of D or F in a required course;
- Two grades of C in required courses;
- Two grades of D or F or any combination thereof in elective courses;
- Failure to submit annual Individual Development Plans;
- Failure to maintain a minimum cumulative GPA of 3.0;
- Failure on one or both parts of the Department comprehensive exam;
- Failure on Departmental Oral Qualifying Exam;
- Failure on Graduate Board Exam;
- Failure to maintain progress on dissertation research/thesis projects;
- Failure oral thesis defense, or
- Academic or behavioral ethics violations
- Not following CBA guidelines

In such cases, after reviewing the student's performance, the Doctoral Program Director and the EHE Educational Program Leadership will make a decision regarding the student's continuation in the program and notify the Department Chair for a final decision. Occasionally, students may be placed on academic probation within the department prior to dismissal. This time period will permit students to attempt to bring their GPA above 3.0. Conversely, any student whose GPA removes them from academic probation will be notified and reported to the Educational Programs Leadership Team.

Students may choose to withdraw from the degree program or School at any time but should consult with their adviser and Academic Program Director prior to making this decision. Failure to maintain registration is considered withdrawal from the School.

Credit Hour Requirement

The Department has specified a series of required core courses to be completed by all PhD students. PhD students in BSPH are required to complete at least 64 credits of formal coursework (i.e., not special studies). At least 18 credits of formal coursework are required in courses outside the student's primary department. At least nine of these credits must be taken in the School of Public Health. PhD students in WSE are required to take at least 20 credit hours per semester.

Course Grades and GPA Requirements:

Doctoral students must earn minimum grades on required courses and maintain a minimum GPA. Failure to do so may place the students on departmental and/or schoolwide academic warning and their performance will be monitored by the Doctoral Program Director and the EHE Deputy Chairs each term.

All recommendations about academic standing will then be presented to the Department Chair for final disposition. Students on academic warning must meet with their adviser, the Doctoral Program Director, and EHE Deputy Chairs each term to review their academic plan and receive approval for their course schedule prior to registering for courses.

Doctoral students must earn a minimum grade on a set of required Departmental Core or track-specific required courses: B" or higher for courses offered for letter grading; "Pass" for courses offered only on a pass/fail basis. The student's adviser and the Doctoral Program Director must be notified when a student receives more than one 'C' from the track-specific courses. This matter then will be brought to the track directors to decide whether the student should at the next opportunity make a second attempt to complete the core course by repeating the same course or by completing another course that they approve. A grade below the threshold on the second attempt may be grounds for dismissal from the program and, for SPH students, must be reported to the School's Committee on Academic Standards.

The Department requires doctoral students to maintain a minimum 3.0 cumulative GPA.

Students with a GPA below 3.0 will be placed on academic warning and will have one term (for BSPH-based students) or one semester (for WSE-based students) of registration in which to raise their GPA above the threshold for their degree. The Doctoral Program Director will notify students placed on academic warning and their performance will be monitored by the Doctoral Program Director and the EHE Deputy Chairs each term. BSPH students with a cumulative GPA below the minimum may not register for more than 18 credits per term. Any repeated courses count towards this 18-credit limit.

Students not meeting the minimum GPA after one term (or semester) may be granted additional term(s) (or semester(s)) on academic warning if academic progress has been shown in the cumulative GPA; any approval beyond one term must be reported to the School's Committee on Academic Standards.

IDP and Annual Review Components

Individual Development Plan (IDP)

The University Doctoral Board requires that each doctoral student be reviewed annually during each year of their doctoral program.

The IDP addresses two needs. First, it provides a structure to systematically identify training needs and competencies, establish goals and take stock of year-by-year progress. Thus, IDPs help doctoral students stay on track with their research as well as paper and grant writing and skills development. Second, there are many career options for individuals who have obtained a PhD in Environmental Health. The IDP helps doctoral students plan and prepare for their post-PhD future. In both areas, IDPs can serve as a tool to facilitate communication between trainees and their mentors.

Goals and Benefits

An annual IDP as part of a broader mentoring program will give the trainee a framework for self-assessment, planning, and communication:

- Assessing current skills, interests, and strengths and their progress in the program;
- Establishing target dates for academic and research milestones
- Developing a plan for skill development to meet academic and professional goals;
- Set goals and sub-goals for the next year, including how to spend their time
- Defining in detail the approach they plan to take in order to obtain the specific skills and strengths needed (e.g., courses, technical skills, teaching, supervision) along with an anticipated time frame for obtaining those skills and strengths
- Helping define career goals and create annual plans to reach goals
- Providing a tool that can be used to provide structure for conversations between the student and their mentor
- Communicating and collaborating with colleagues and potential employers about evolving goals and related skills
- Using the IDP to make sure student and adviser expectations are clearly outlined and
- in agreement so that there are no big surprises, particularly towards the end of doctoral training

The IDP is meant as a living document, to be modified as the student moves through the program to help solidify goals and plans. Students are encouraged to take advantage of this opportunity to reflect on their success and challenges from the previous year and work towards key milestones and anticipate challenges in the coming year(s). They are encouraged to use the questions in the IDP as a starting place for thinking; they should not feel the need to respond to all questions, if some are less relevant for the individual, and the student should feel free to also consider addressing other aspects not included in the structured IDP questions.

IDP and Annual Review Components

The annual review will have three components:

1. Student self-assessment and IDP
2. Monitoring of progress in the program
3. Written feedback from the department to the student

Student Self-Assessment and IDP

Between October and December of each academic year, students will complete or update the self-assessment and IDP. They will meet with their adviser in person, (or virtually, based on compliance with COVID-19 mitigation measures) to discuss the IDP no later than the end of Fall semester or second term. If insufficient progress is being made (e.g., failing grades, inadequate progress), the student may be placed on probation prior to the start of the Spring semester or the third term.

Students in the second year and beyond will document their accomplishments from the past year and note specifically any accomplishment(s) and activities not presently reported (i.e., papers in review/published, posters presented, presentations or guest lectures given, and/or grant proposals in progress, submitted or funded). Students should note if they had any teaching assistant (TA) duties.

Students should include short- and long-term research/academic/professional goals, for the next year and beyond, how their progress in the past year has contributed to those goals, how their planned activities in the next year will contribute to their longer-term goals, and any

impediments they see to reaching those goals. Students should note issues that could impede their progress in the program or in terms of their broader professional goals. Students should also identify and discuss new activities and opportunities that could assist them in achieving their goals.

Monitoring student progress in the program

If the student has not completed their qualifying written and oral exams, then the student will schedule an in-person meeting with their adviser and another faculty member, if desired (e.g., co-adviser or track director), to review the IDP. If the student has completed their qualifying written and oral exams, then this meeting can be done in conjunction with a thesis advisory committee meeting.

There should be mention of a timeline for meeting program goals and degree completion, and any concern regarding performance. Funding, research changes, TA expectations, etc. should be confirmed and clarified as well. Concerns, questions and needed clarifications should be addressed in this meeting. If there are irreconcilable concerns between the student and adviser, the track directors should be consulted with next steps potentially engaging the Departmental chair in the discussions.

After the meeting the student will write a summary of their goals and plans for the next year and send it to their adviser for their comments and feedback. The completed form is then emailed to the academic program administrator as documentation that the IDP was completed and discussed between student and adviser.

Students who have successfully passed the School-wide preliminary oral exam will meet with their thesis advisory committee every six months until program completion. A report of each meeting will be documented on Form C- Thesis Advisory Committee Meeting Evaluation and submitted to the academic program administrator to be included in the student's file.

Departmental feedback to the student

Each year the Department will provide written feedback to the students. Feedback will be in the form of a letter detailing the student's progress and deficiencies, evidence of completion of the IDP process and discussion, and summary of specific goals and expectations for the next year. Students will receive this feedback prior to the first term or Fall semester. If a student has not made satisfactory progress in meeting program requirements or expectations, this checkpoint will be an opportunity to place them on probation. Any probation will be outlined in a separate letter with clear terms and deadlines.

Reporting and Records

The Department is responsible for initiating the IDP/annual review process and ensuring its completion even if a student or adviser does not comply or engage in the process. If a student does not respond to requests to participate in the annual review process, a note will be placed with the Department's tracking system citing that the student did not comply. Non- compliance will result in probation.

In the event the adviser is unable or unwilling to complete the annual review process the department will select another faculty member to complete the review. The Department chair

will discuss the implications of non-compliance of faculty mentors with the IDP process.

To assure appropriate confidentiality, there will be no mention of a student's mental or physical health or reporting on any other student in any student IDP documentation created by the department/adviser/committee.

PhD Examinations and Procedures

Research Proposal

PhD students must develop a written proposal to prepare for the preliminary oral examinations. The proposal will be in the form of a standard NIH, NSF, or other funding agency format. The adviser is responsible for informing the student of any track-specific deviations from this requirement. This preliminary proposal supports the student in outlining key questions to be addressed for further research.

Comprehensive Written Examination (BSPH only)

The purpose of the comprehensive exam is to ensure that all students understand the material covered in the core required courses for the Department and their track. A Department comprehensive examination is administered to all students enrolled in the BSPH-based doctoral degree tracks at the close of the first academic year.

All students are required to take the exam within the scheduled dates—no alternate exams will be offered. Students should not plan any activities at the close of the first year that would inhibit their ability to complete the exam, the exam typically is held in June.

By the time of the exam, students should have completed the required first-year coursework in their Track and have a cumulative GPA of at least 3.0. The comprehensive exam is used to ensure the student is familiar with general environmental health concepts and methods to make original and responsible contributions in environmental health and engineering research, and to assess the level of understanding of track- or program-specific skills.

Comprehensive Examination Grading Policy

The completed Comprehensive Examination is graded by Environmental Health and Engineering faculty according to a rubric determined by the Comprehensive Examination Committee. Final results are distributed to students in a timely manner during that summer.

Doctoral students must attain at least an 80% on both parts of the examination to pass. After a student has passed the comprehensive exam, they will continue in their track to complete any required or elective courses, prepare for the DQE and GBO examinations, and participate in research activities as guided by their adviser.

Comprehensive Examination Retake Policy

Students who do not pass the Comprehensive Exam at the appropriate level may be granted an opportunity for a retake prior to the start of the subsequent Academic Year. Students are granted one retake only, and it must be prior to the start of the subsequent academic year. A student cannot continue in the degree program without passing the Comprehensive Examination at the

appropriate level, prior to the start of the second year. If a student chooses not to retake the comprehensive examination, they will be eligible to transfer to a Master's program.

Departmental Qualifying Examination (DQE) (WSE and BSPH)

The primary purpose of the Departmental Qualifying Oral Examination is to prepare the student for the Preliminary Graduate Board Oral Examination (GBO or School-wide Exam). As such, the Departmental Qualifying Oral Examination shares the purpose of the Graduate Board Oral Exam:

To determine whether the student has both the ability and knowledge to undertake significant research in the general area of interest, including: (1) capacity for logical thinking; (2) breadth of knowledge in relevant areas; and (3) ability to develop and conduct research leading to a completed dissertation (thesis). Discussion of a specific research proposal may serve as a vehicle for determining the student's general knowledge and research capacity. However, this examination is not intended to be a defense of a specific research proposal.

The Department Qualifying Oral Examination Form

The Department Qualifying Oral Examination Form is due to the Academic Program Coordinator, at least 14 days before the proposed exam date. With approval of the Dissertation (thesis) Adviser. The student must submit a copy of their thesis proposal to the committee members at least two weeks before the exam date.

Department Qualifying Oral Examination Committee Membership

For PhD students, the Department Qualifying Oral Examination Committee should consist of five faculty members with primary appointments in EHE: four from the student's track/program (including the adviser) and one from within the Department, but outside the student's track. An alternate member should also be selected in case one of the committee members is unable to attend on the day of the examination. The most senior faculty member (excluding the student's adviser) will serve as the chair of the evaluation process. Students should work with their adviser to select the faculty composition and exam time and complete the Departmental oral evaluation form.

While the above describes the necessary committee, if the student or advising team wants an additional faculty member to be present, the examiners and student must decide in advance whether the extra faculty member may ask questions. In any case the extra person may not vote but may contribute feedback to the student. Students considering this should first check in with the Doctoral Program Director.

Scheduling

In preparation for scheduling the Department Qualifying Oral Examination, students should meet with the Academic Program Coordinator, to confirm that the student has met all Track, Department, and Schoolwide course requirements and has assembled a valid set of proposed committee members for the Department Qualifying and the Preliminary Graduate Board Oral Examinations.

The Academic Coordinator will schedule the room and send a memo to examiners prior to the examination date. The academic program coordinator will provide the committee members with the student's academic file on the day before the exam. (Note: no more than two of the faculty on

this committee can serve in the group of 5 primary members of the Preliminary Graduate Board Oral examination).

Conduct of the Departmental Qualifying Oral Examination

The evaluation commences with a discussion among the faculty (in the student's absence) concerning the student's academic performance and activity. The student will present a brief talk of no more than 10 minutes that concisely summarizes the aims, hypothesis, methods, limitations, and significance of their proposed dissertation research. The faculty will question the student to determine whether they are adequately prepared to conduct the research outlined in the proposal. Questions will not be confined to the proposal but can cover any topic deemed to be fundamental to a doctoral student in their particular field. Questioning continues until all faculty members have asked questions and acquired sufficient information about the student's knowledge and abilities.

Departmental Qualifying Oral Examination Outcome

Immediately following the examination, the committee evaluates the success or failure of the student. One of the following results must be reported to Doctoral Program Director and EHE Deputy Chairs by the Committee Chair. The two main criteria to determine the outcome of this exam are:

1. The student is academically prepared to pass the school-wide oral examination.
2. The student is academically prepared to carry out his/her dissertation research.

Based on the above criteria, the possible outcomes of the oral examination are: Unconditional Pass, Conditional Pass, or Failure (retake).

Unconditional Pass

If the members each vote "unconditional pass" on the first ballot, this result is reported with no further discussion.

Conditional Pass

If one or more members vote "conditional pass" or "fail," then the committee should discuss the specific concerns of those members as discussed below. The committee may decide that further evidence of qualifications is necessary and impose a specific condition that the candidate must fulfill within a given period of time not to exceed 2 months, except for requirements to take a course or undergo a training program that may occur outside this window, or, unless otherwise recommended by the examination committee The committee should make a concerted effort to reach a consensus. In the case of a conditional pass, the committee will remain appointed until the condition is removed. Terms of the condition and its removal must be reported in writing to the EHE Academic Office. Students cannot sit for the Graduate Oral Board Exam (School-wide) until the conditions have been removed.

Failure

If a majority of the committee decides that the candidate has failed the exam, the committee must recommend a future course of action. A student will be permitted to retake the exam only once. Students who fail will be required to re-take the Department Oral Examination within two months. Two failures of the Departmental Oral Examination will result in dismissal from the

degree program. Doctoral students who are not able to continue in the program may request a transfer to one of the Departmental master's programs. Following the evaluations, the Chair of the Committee will submit a brief report summarizing the decision of the committee to the student's adviser, the Doctoral Program director, the EHE Deputy Chairs, the Department Chair, and the academic coordinator. A student who has passed the DGE will be eligible to take the GBO. Typically, the GBO is scheduled for a time at least 3 weeks after the DQE.

Preliminary Graduate Board Oral Examination (GBO) (needed for Both BSPH and WSE)

After the student has passed the Departmental Qualifying Oral Examination, the next step is the Preliminary Graduate Board Oral Exam. The Preliminary Graduate Board Oral examination (or School-wide Oral Exam) is administered by the School's Office of Academic Affairs under University guidelines. The purpose of the examination is to determine whether the student has both the ability and knowledge to undertake significant research in their general area of interest, including: (1) capacity for logical thinking; (2) breadth of knowledge in relevant areas; and (3) ability to develop and conduct research leading to a completed dissertation. Discussion of a specific research proposal, if available, may serve as a vehicle for determining the student's general knowledge and research capacity. However, this examination is not intended to be a defense of a specific research proposal. The examination should be taken at the earliest possible time, no later than the end of the student's third year in residence, and before significant engagement in dissertation research.

Examination Committee Membership

The Preliminary Graduate Board Oral Exam must consist of five voting members plus two alternates. At least three University departments must be represented, with at least 2 from the School the student is matriculating in (e.g., Bloomberg School of Public Health or the Whiting School of Engineering). No more than three members can be from the EHE Department, one of whom must be the student's adviser of record. A third member from the department is optional. The adviser must be among the members present; an alternate may not serve for the adviser. The senior faculty member without a primary appointment in Environmental Health and Engineering will serve as Chair of the Committee and must hold the rank of Associate or Full Professor. All faculty members must serve on the Committee representing the department of their primary faculty appointment. Most often, the committee is comprised of duly appointed faculty members of a University department and must hold, at the time of selection, an appointment of Assistant Professor or higher.

All members of the Committee must be present either in- person or remotely at the exam location. The committee must have appropriate alternate members to serve on the committee. The selection of the alternates is critical to ensure that the exam can take place at the originally scheduled date and time.

Scheduling

The student and their adviser are responsible for initiating arrangements for this examination and to send a memo/email to examiners confirming the date, time, and exam forum prior to the exam date. All members of the committee must be present at the scheduled exam location or attend virtually.

GBO exam request processing (Differs for BSPH and WSE)

BSPH: GBO exam requests go through the BSPH preliminary oral exam request system (ERS): Preliminary Oral Exam. Students should fill out the departmental GBO form with their proposed committee before submitting a request, so that the committee is deemed accurate before submission by the academic coordinator. Once the committee is approved by the academic coordinator, students submit their proposed date, time, location, and committee to the ERS at least four weeks before the scheduled date. It gets routed to the adviser and the academic coordinator for approval before it gets sent to the Graduate Record Coordinator (GRC). All mentioned forms can be found in the student resources page. Students should try to initiate this process six weeks in advance of the GBO date to allow sufficient time for all stages. The school requires that the final form be submitted with all signatures 30 days prior to the GBO date.

WSE: GBO exam requests go through the academic coordinator via the WSE GBO form. These must be filled out by the student with the exam date, time, committee, and location. The academic coordinator checks the form for committee accuracy and submits the form to Christine Kavanagh for final sign-off. The AC will return the signed form to the adviser and student to record the results and obtain signatures. The WSE GBO form can be found on the student resources page.

Conduct of the GBO

The exam is usually 2 hours long and generally proceeds as follows: The student is asked to leave the room. The adviser reviews the student, their progress, and confirms their completion of relevant requirements. The committee determines the order in which members will ask questions. The student is asked to return to the room. The student will make an oral presentation for approximately 15 minutes.

Committee members take turns asking questions of the student, approximately 10-15 minutes each. The student adviser generally goes last. After all follow-up questions are answered, the student is asked to leave the room. Committee members first use a secret ballot to vote on the outcome of the exam. If any members vote “Fail” or “Conditional Pass” the committee discusses that result and votes again (open ballot) on the final decision and any conditions. The final decision is made by majority vote if consensus cannot be reached. The student is asked to come back into the room and the Chair communicates the result and any formal conditions or informal recommendations to the student. The Committee chair will oversee any formal conditions placed on the student resulting from the exam, including a letter to the Registrar documenting the requirements and their due dates, and then a subsequent letter when the conditions have been met.

Graduate Board Oral Examination Outcome (Differs for BSPH and WSE)

Immediately following the examination, the committee evaluates the success or failure of the student. One of the following results must be reported.

BSPH: the exam results are uploaded to the exam request system through the link provided above. After the GRC reviews the request and sends the signed form back, the results and members present can be uploaded by the committee chair. If the exam ends up being a conditional pass, please go back to the ERS once the conditions have been met.

WSE: The results need to be recorded on the WSE GBO form along with the signatures of the

present committee members. This form needs to be returned to the Academic Coordinator so it can be uploaded to the PhD students' SIS records.

Graduate Board Oral Examination Outcome

Immediately following the examination, the committee evaluates the success or failure of the student. One of the following results must be reported by the committee chair to the Records and Registration Office as well as the Doctoral Program director, the EHE Deputy Chairs, and the departmental academic coordinator. The main criteria to determine this exam's outcome is whether the student is academically prepared to do his/her dissertation research. Based on the above criteria, the possible outcomes of the oral examination are: Unconditional Pass, Conditional Pass, or Failure (retake).

Unconditional Pass

If the members each vote "unconditional pass" on the first ballot, this result is reported with no further discussion.

Conditional Pass

If one or more members vote "conditional pass" or "fail," then the committee should discuss the specific concerns of those members as discussed below. The committee may decide that further evidence of qualifications is necessary and impose a specific condition that the candidate must fulfill within a given period of time not to exceed 2 months, unless otherwise recommended by the examination committee The committee should make a concerted effort to reach a consensus on the conditions. In brief, conditions should be thought of less in terms of specific details of the proposal (like a referee report) and more about the student's fundamental knowledge and skills and readiness to conduct independent research.

Any conditions should indicate: 1) the substantive gap that needs to be filled, 2) the specific requirements to be completed to fill that gap, 3) who will be responsible for ensuring the student meets the specific requirements, and 4) the deadline for completing the condition. If the conditions are not satisfied within the length of time specified by the examining committee, the student must retake the exam. Terms of the condition and its removal must be reported in writing to the EHE Academic Coordinator and the Doctoral Program Director by the Committee Chair.

Failure

If a majority of the committee decides that the candidate has failed the exam, the committee must recommend a future course of action. A student will be permitted to retake the exam only once. Students who fail will be required to re-take the Graduate Board Oral Examination within three months. Any of the recommendations of reexamination may also be accompanied by conditions such as those listed above for "Conditional Pass." Two failures of the Graduate Oral Examination will result in dismissal from the degree program. Doctoral students who are not able to continue in the program may request a transfer to one of the Departmental master's programs. Following the evaluations, the Chair of the Committee will submit a brief report summarizing the committee's decision to the Doctoral Program director, the EHE Deputy Chairs, Department Chair, and the academic coordinator.

GBO Exam Request System (BSPH)

The Exam Request System (ERS) for Schoolwide PhD Preliminary Oral Exams is how GBOs are

submitted. The user guide for instructions on how to use the ERS can be found on the Doctoral Candidate Information portal page.

The process begins with the student initiating the form online using the ERS (linked above). We recommend you start the online process at least 6 weeks prior to the exam. The paperwork must be submitted at least 3-5 working days (ideally one work week) prior to the 30-day mark to ensure the department has sufficient time to add necessary components and submit to the school at least 30 days prior to the exam date.

- Before this request is submitted, students must secure a date, time, and location for their exam and work with their academic coordinator (ehe-academics@jhu.edu) and PhD program director, Meghan Davis (mdavis65@jhu.edu), to solidify their committee. This pre-review will reduce unexpected challenges at the time of submission.
- Please email the departmental team named above when you submit your GBO form in the system.

GBO Exam Planning Steps

1. Reach out to internal (inside the department) and external (outside of the department) faculty to solidify who can attend your exam. The Committee must consist of:
    - Two internal members
    - At least two external members
        - External members have to represent at least two different departments. One needs to be at Associate or Full rank (Tenure-Track or non Tenure Track)—the highest ranked person at Associate or Full will serve as Chair.
    - One internal alternate and one external alternate
        - The external alternate will substitute if either of the external members cannot attend and therefore:
            - Best if this person is from a different department than either external member.
            - If only one of the external members is at Associate or Full rank, then this alternate also needs to be at Associate or Full rank (to have an alternate for the Chair).
2. Work with them to discuss a good date and time for the exam.
3. Once the date and time is set, work with Christina Price (cprice@jhmi.edu) to secure a room and ask your advisor to set up a zoom link (if needed).
4. Send this sheet with your proposed committee to ehe-academics@jhu.edu and Meghan Davis (mdavis65@jhu.edu) to ensure the composition is correct.
5. After confirmation from the department, you can use the ERS to request your exam formally.
6. If it is denied at any point in the process (from the academic coordinator, advisor, etc.) it will be sent back to you to be fixed.

Final Oral Examination and Public Seminar

Thesis Advisory Committee

**Formal TAC form is needed for BSPH but not for WSE (this is an initial form filled out be students indicating their who is in their committee and it is sent to central-registrar)*

Upon successful completion of the Preliminary Graduate Board Oral Examination, the student, in consultation with their adviser, will form a thesis advisory committee to provide continuity in the evaluation of progress and development of the student. The principal responsibilities of the committee are to review the student's dissertation proposal, to advise and guide the student's research, and to read and evaluate the student's final dissertation. Students work in consultation with their adviser and/or track directors to select members of the committee.

The committee consists of the student's adviser and two to four other faculty members from both inside and/or outside the student's Department with expertise in areas relating to the proposed research of the student. Membership of the committee may change as dictated by the needs of the student and direction of the research. It is required that the student will meet formally at least twice per year (every six months) with the committee, beginning six months after the successful completion of the school- wide preliminary oral examination and continuously until the final defense.

At these meetings, the student will present progress on their thesis project and the committee will offer advice. For each meeting, an evaluation of the student's development and progress will be prepared by the adviser in consultation with the committee, discussed with the student, and submitted to the academic program administrator to be included in the student's file. As the thesis project progresses, the committee may indicate a target date for completion of the thesis research. Noncompliance with committee meeting requirements is grounds for dismissal from the program.

Please note that BSPH also requires submission of a "TAC Form," which is in addition to the Form C of the Thesis Advisory Committee that is submitted every six months. The BSPH "TAC Form" requires listing of the TAC committee members, assurance of IRB compliance and, if applicable, assurance of ACUC compliance if students work with animals.

Doctoral Dissertation

**There are differences between BSPH and WSE regarding committee membership, forms required, and reporting the results.*

Doctoral students must complete an original investigation presented in the form of a dissertation. The thesis must be based on original research, worthy of publication and acceptable to the Department and to the committee of readers. Students should consult the sources for details on preparing the thesis: PPM (BSPH), Doctoral Candidate Information (WSE), and Library Services.

Final Oral Examination and Public Seminar

The committee of thesis readers shall conduct the oral defense of the thesis after the thesis advisory committee agrees that the candidate is ready for the formal defense (also known as final oral exam or FOE). During this defense the committee shall evaluate:

1. The originality and publication potential of the research;
2. The candidate's understanding of the details of the methodologic and analytic work;
3. The final quality of the written thesis document.

The purpose of the Final Oral Examination is to ensure that the Candidate is able to present and defend the dissertation and its underlying assumptions, methodology, results, and conclusions in a manner consistent with the doctoral degree being sought. The final oral examination is three hours total (one for seminar/presentation and two for exam by committee).

Appointment of Dissertation (Thesis) Readers and Committee Forms

Once a date for the defense has been agreed upon by the committee of thesis readers, **BSPH** students must complete and submit the approved Appointment of Thesis Readers and Final Oral Examination form to the Registrar's Office a minimum of four weeks prior to the proposed examination date. There are no exceptions. The adviser will confirm that the thesis is in a final form, is ready to be submitted to the readers, and that all other School and Department requirements for the degree have been fulfilled. Thesis readers must have at least one month to read the thesis before the final examination is held as they might have suggested revisions as well. All doctoral candidates must give a formal presentation of their completed thesis work at a public seminar. The student is responsible for arranging the forum for the Final Oral Examination, for both the seminar and examination.

Once a date for the defense has been agreed upon by the committee of thesis readers, **WSE** students should submit the departmental defense form to the academic coordinator for approval and documentation. This form should be submitted no later than 30 days before the scheduled examination date. The student is responsible for arranging the forum for the Final Oral Examination, for both the seminar and examination.

Committee Composition

BSPH: the committee consists of **five voting members** plus **two alternates**. At least three University departments must be represented, with at least 2 from the school the student is matriculating in (e.g., Bloomberg School of Public Health or the Whiting School of Engineering). No more than three members can be from the EHE Department, one of which must be the student's adviser of record. A third member from the department is optional. The adviser must be among the members present; an alternate may not serve for the adviser. The senior faculty member without a primary appointment in Environmental Health and Engineering will serve as Chair of the Committee and must hold the rank of Associate or Full Professor.

WSE: the committee consists of at least three readers, one of which is the student's adviser. The official dissertation readers must be JHU faculty at the rank of assistant professor, associate professor, or full professor. This may include JHU full time or JHU part time faculty, visiting faculty, or emeritus faculty if they also hold the titles of assistant, associate, or full professor. Members who are external to JHU need to be approved by Christine Kavanagh.

Final Defense Seminar

As a culminating experience for the doctoral candidate, the student will present a formal, public seminar. This requirement provides experience for the student in preparing a formal seminar;

provides faculty and Department with an opportunity to share in the student's accomplishments; and gives the student a sense of finality to the doctoral experience. Students typically present a formal public seminar in conjunction with the Final Oral Examination. The seminar must be scheduled during normal working hours and will be promoted by the Department.

Conduct of the Examination

If one of the officially appointed Committee members fails to appear on the Final Oral Examination date/time, the previously approved alternate will serve as an examiner. A Final Oral Examination may not be held with fewer than four officially approved faculty members present in the live forum. The adviser must be among the members present; an alternate may not serve for the adviser. Only approved Committee members are permitted to participate as examiners.

Examination Outcome

**Reporting of results differs for WSE and BSPH*

The possible outcome of the Final Oral Examination based on the student's performance and written dissertation is determined by closed ballot as Acceptable, Conditionally Acceptable, or Unacceptable. If one or more members require substantive changes to the dissertation (Conditionally Acceptable), the specific nature of these changes and the time expected for the student to complete them will be provided to the student in writing. The appropriately revised dissertation must be submitted to each of the members for final approval. If one or more members feel that the candidate's understanding of the written dissertation is inadequate (Unacceptable), or that the dissertation in its present form is not acceptable, then the candidate has failed. Re- examination would be in order unless there is a unanimous recommendation to the contrary.

For **BSPH** students, Results of the exam are sent to BSPHExams@jhu.edu directly following the examination from the committee chair. The exam chair and adviser must submit thesis acceptance letters to BSPHExams@jhu.edu as well. BSPH doctoral students will have up to 30 days after the final defense to make corrections and submit their electronic thesis. All doctoral students must remain registered during this time. If the funding has not gone over the total number of years allotted, they will receive stipend and health insurance coverage for these 30 days. After the 30 days, they will be terminated from payroll as a graduate student in the Department. Students on the School health plan are responsible for cancelling their insurance and should contact the Student Accounts office jhsph.bursar@jhu.edu.

For **WSE** students, results of the exam are recorded through the reader letter. Each of the three committee members (thesis readers) must sign this letter and return it to the academic coordinator. WSE doctoral students must complete all corrections and submit their dissertation to the Electronic Thesis & Dissertations (ETDs) system at least two working days before the Homewood Graduate Board degree completion deadlines. Additionally, WSE students should submit their exit survey certificate, the ETD email from Sheridan, and any other completion paperwork to the department to expedite processing for graduation.

The Department requires one bound copy of the thesis. The School recommends using Thesis on Demand. The binding should be black, the students name, degree and year should be on the spine, and thesis title and name on the front. The Department does not cover the cost of electronic

thesis submission or binding. All Departmental copies are placed in an accessible Departmental archive.

Time to Completion & Graduation

PhD students matriculating through BSPH have seven years from the time of matriculation to complete their degree requirements. Students enrolled in the PhD in Environmental Health and Engineering within WSE have nine years from the time of matriculation to complete their degree requirements. However, it is expected that all doctoral students will have completed the program within five years after matriculation. Students will receive a maximum of five years of funding from the program, dependent on continued satisfactory progress. Student funding beyond five years is not available. A formally approved leave of absence does not count toward this time.

Graduation

The Academic Program Administrator must be notified as soon as the student settles on a date to graduate (email is acceptable.) For degree candidates, there are several deadlines throughout the academic year for completing/submitting an acceptable thesis or essay or submitting an approval for a degree that involves only coursework. Please check with your adviser and Program Administrator to confirm these deadlines. It is important that your name appears on the graduation list that is submitted to the Office of the Registrar. There is only one university-wide commencement ceremony held in May of each year. Diplomas for all degrees completed within the academic year are awarded at that time. School graduation ceremonies are also held in May of each year.

A student wishing to graduate must complete several documents

1. An application for graduation (submitted to the registrar's office via SIS)
2. Copy of the receipt after approved thesis is submitted to library
3. A reader's report or committee letter submitted to the department on the student's behalf (if Ph.D. candidate)
4. Unofficial transcript (from SIS)

The department will file the certificate of completion to the correct offices after receipt of the above documents.

Once a student has been cleared for graduation and is leaving campus, the following two forms must be completed:

1. Exit checklist
2. Exit questionnaire

PhD in Environmental Health
Track in Environmental Sustainability, Resilience and Health

Track Directors

Roni Neff, PhD, Keeve Nachman, PhD, and Paul Ferraro, PhD

Track Description

The Environmental Sustainability, Resilience and Health (ESRH) track aims to cultivate innovative public health scientists and engineers who address urgent challenges at the intersection of climate, sustainability, resilience, and equity. The ESRH program in the Department of Environmental Health and Engineering is jointly delivered by the Bloomberg School of Public Health and the Whiting School of Engineering. Students
establish their base in one of the two schools but benefit from coursework, mentorship, research opportunities and a cohort of colleagues in both.

Our students research anthropogenic drivers and other factors that exacerbate ecological crises, and interventions aimed at adapting to threats and minimizing the diverse impacts on human well-being, with emphasis on equity. Additionally, students focus on how global environmental changes affect human societies, infrastructure, and ecosystems, as well as strategies for adapting to evolving public health threats. The program emphasizes the role of context and complexity, including the ways environmental, socioeconomic, biological and other factors intertwine and interact to shape outcomes and possibilities.

Utilizing systems thinking alongside core public health and engineering tools, this program leverages the evidence base to lay the foundation for understanding the impacts of various modes of resource utilization, food and energy production and use, and other human
activities. Program trainees will recognize and respond to the numerous and disparate ways in which people are affected by these threats at the individual, community and population levels by employing cutting edge quantitative and qualitative basic science and applied tools aimed at generating policy-relevant scientific knowledge and solutions.

Students will learn how to apply skills to sustainability challenges through applied research and practice activities, and will receive training in skills such as communications and policy work. They will interface with policymakers and practitioners in Baltimore and beyond, and will collaborate with other students. ESRH doctoral trainees will be prepared for diverse careers, including work in academic institutions, multiple levels of government, intergovernmental bodies, non-profit/ non-governmental organizations, and private industry.

Track Faculty

- **Meghan Davis**, PhD, DVM; Environmental microbiology, one health, asthma
- **Peter DeCarlo**, PhD; Air quality and pollution, environmental chemistry, climate change
- **Paul Ferraro**, PhD; Behavioral economics, evidence-based public policy
- **Shima Hamidi**, PhD; Geospatial data, built environment, housing and transportation & health
- **Ben Hobbs**, PhD; Energy and water systems, economics

- **Kirsten Koehler,** PhD, MA; Exposure assessment, aerosols, air quality
- **Scot Miller,** PhD; Greenhouse gases, air pollution, atmospheric science
- **Keeve Nachman**, PhD, MHS; Risk assessment, exposure sciences, food systems
- **Roni Neff,** PhD, ScM; Food systems, food waste, food system resilience, equity
- **Carsten Prasse,** PhD; Emerging contaminants, engineering processes, analytical detection methods
- **Ana Rule,** PhD; Air pollution, bioaerosols, metal speciation
- **Kellogg Schwab**, PhD, MSPH; Water, sanitation and hygiene, environmental microbiology, microbial fate and transport
- **Brian Schwartz,** MD, MS; Environmental epidemiology, sustainability, built environment, lead
- **Genee Smith,** PhD, MSPH; Environmental epidemiology, health effects of climate change, infectious diseases
- **Jaime Madrigano, ScD**; Epidemiology, environmental health, air pollution, climate change, environmental justice
- **Ben Huynh,** data science, planetary health, environmental justice

Required Courses

In addition to EHE core requirements as adapted for this track, the ESRH core course sequence is approximately 16 credits. Details are provided in the curriculum below.

Elective Courses

Students will complete at least nine elective credits focused on one to two selected topic areas, and at least 12 elective credits focused on methods/skills. These electives must be approved by the student's advisor and the concentration directors and should focus on building expertise in specific content and methodological areas.

Journal Club

All track students will be required to register and participate in a journal club throughout their degree program. Currently the journal club is shared with the ESEE track. We will also hold quarterly journal club sessions for ESRH students only, to compliment required course content. The journal club will provide context, depth, breadth, and engagement.

Recommended

The track intentionally provides flexibility to enable students to customize their remaining coursework to align with their goals. To support broad thinking and development of novel approaches, students are encouraged to take methods and content courses outside of the main topic/s they have chosen for their electives, including at least one course on a topic ostensibly unrelated to the ESRH track.

Track in ESRH Curriculum

ESRH Course Requirements By Term

Note: Courses are added and removed frequently. Students should check updated listings.

Track in Exposure Sciences and Environmental Epidemiology

Track Directors

Kirsten Koehler, PhD
Jaime Madrigano, ScD

Track Description

The Exposure Sciences and Environmental Epidemiology (ESEE) track offers research and training opportunities in key topic areas relevant to environmental and occupational health. These include air, water, the food system, exposures across the life course, metals and synthetic chemicals, environmental microbiology, the built environment, global environmental health, molecular and integrated epidemiology, the investigation of susceptibility factors, occupational health, and effective interventions. Graduates from the ESEE track work in academic research institutions, health agencies, health departments, public health advocacy organizations, and private industry organizations that are leaders in environmental and occupational health in the United States and around the world.

While the exact course sequence for each student is customized on an individual basis dependent on their background and research interests, coursework generally centers around one of several topic areas as illustrated below. This coursework is designed to achieve in-depth and experiential training to complement the core instruction.

Exposure Sciences

Evaluating and preventing or minimizing exposure from airborne, waterborne, or foodborne physical, chemical or biological pollutants, and promoting health and safety in occupational and non-occupational environments are major strategies to protect public health. Using principles of chemistry, biology, physics, engineering, epidemiology, risk assessment and mathematics, we develop innovative solutions to environmental contamination problems. We develop techniques to measure contaminants in various media, develop strategies and conduct studies to assess the levels of exposures in populations, evaluate the impact of a hazard, offer solutions on treatment or containment, promote regulations and policies to prevent human or environmental contamination, and perform quality control checks.

Environmental Epidemiology

Understanding the role of the environment in human health is critical to improve health and quality of life in human populations, especially among vulnerable and marginalized groups. Using an epidemiologic approach, we conduct population- based research that incorporates state-of-the art exposure and outcome assessment to evaluate the role of the environment in disease, disability, and other health outcomes and to develop strategies for health promotion and disease prevention and control. We engage with diverse populations nationally and internationally, employ classic and cutting-edge epidemiologic methods, and investigate a broad range of environmental exposures including the natural and built environment.

Occupational Health

Protecting workers from disease and injury is vital nationally and internationally and is an important component of environmental health. We address work-related health problems and

design solutions to control and prevent disease or injury caused by chemical, physical, psychosocial, and biological threats. Our goal is to promote and maintain the health of worker populations, particularly those who are most vulnerable, to ensure healthy and productive working lives. Our research includes occupational exposure assessment, industrial hygiene, occupational nursing, development and validation of sensors and biomarkers, epidemiology, population health management, health promotion, policy analysis, and intervention studies focused on disease prevention.

ESEE Track Advising Faculty

- **Meghan Davis**, PhD, DVM, MPH; Environmental microbiology, One Health, occupational health, asthma
- **Louis Fazen**, MD; Occupational health & occupational medicine, job stress, organizational justice
- **Shima Hamidi,** PhD; Geospatial data, built environment, housing and transportation & health
- **Christopher Heaney**, PhD, MS; Environmental epidemiology, water and health, community-based research
- **Jaime Madrigano**, ScD, MPH; Environmental epidemiology, climate & health, environmental justice
- **Kirsten Koehler,** PhD, MA; Exposure assessment, aerosols, air quality, occupational health
- **Keeve Nachman**, PhD, MHS; Risk science, risk assessment, food systems
- **Roni Neff,** PhD, ScM; Food systems, agriculture, sustainability, health disparities
- **Carsten Prasse**, PhD; Emerging contaminants, engineering processes, analytical detection methods
- **Lesliam Quiros-Alcala**, PhD; Impact of exposure to chemicals, EDCs, PPCPs on disease risks in vulnerable populations, occupational health
- **Gurumurthy Ramachandran,** PhD, CIH; Exposure assessment, nanoparticles, risk assessment for nanomaterials, occupational health
- **Ana Rule,** PhD; Air pollution, bioaerosols, metal speciation, occupational health
- **Kellogg Schwab,** PhD, MSPH; Water, sanitation and hygiene, environmental microbiology, microbial fate and transport
- **Brian Schwartz,** MD, MS; Environmental epidemiology, sustainability, built environment, lead, occupational health
- **Genee Smith**, PhD, MSPH; Environmental epidemiology, health effects of climate change, infectious diseases
- **Ben Huynh,** data science, planetary health, environmental justice

ESEE Track Program Faculty

- **Dan Barnett**, MD, MPH; Emergency preparedness & response; public health workforce
- **Peter DeCarlo,** PhD; Air quality and pollution, environmental chemistry, climate change
- **Natalie Exum**, PhD; Sanitary engineering, environmental infectious diseases
- **Sara Lupolt**, PhD, MPH; Exposure assessment, food systems, risk assessment
- **Nora Pisanic**, PhD; Industrial food animal production, microbial source tracking
- **Carsten Prasse,** PhD; Environmental chemistry, exposome science, water treatment

ESEE Track Core Requirements

ESEE Track Seminars and Journal Club

To foster collaboration and enhance research creativity and performance, the ESEE track organizes a seminar and journal club course jointly with the Department of Epidemiology. Activities include:

- The Johns Hopkins Education and Research Center (ERC) seminar series offered the 1st Monday of each month, a forum for discussion and learning on occupational health research and practice (mandatory for students enrolled in the ESEE journal club and those receiving funding from ERC).
- Journal Club all other Mondays.

All PhD students have the same core requirements. Please refer to the core curriculum for these details. Students receiving funding from the NIOSH Education and Research Center (ERC) are required to complete additional coursework. Contact your adviser for more information.

† Required for ERC

*Online section may be offered. See the course directory for term information.

ESEE Track Curriculum

Track in Health Security

Track Directors

Gigi Gronvall, PhD and Tara Kirk Sell, PhD

Track Description

In a world of rapid innovation in the biological sciences, the emergence of new diseases, and changing environmental pressures, health security risks to the global community are a rising concern. This program will train future researchers studying major biological and health security risks who could contribute unique voices to the academic community and ultimately inform global policies that will shape future preparation and responses to health security and global catastrophic biological risks. Graduate students in this program will learn skills that relate to prevention, preparedness, and response to potential health security threats. Topic areas are wide ranging, with a common thread of reducing health security threats or their impacts and increasing resiliency of communities to global catastrophic biological risks.

Competencies

1. Identify major health security threats; characterize the human, social, economic, and political risks they pose to societies; and demonstrate the importance of public health to national security
2. Apply risk assessment principles to program planning, implementation, and goals, particularly in the context of emergency response and health security problems
3. Examine the origin and evolution of major US and international organizations and initiatives to prevent, detect, and respond to health security threats; and assess those areas of health security where preparedness is strongest and where additional progress is needed
4. Evaluate the effectiveness of strategies to enhance health security and prevent or mitigate health security threats
5. Synthesize and communicate important health security information in a way that enables political leaders and policymakers to take appropriate action

HS Track Faculty

- **Amesh Adalja**, MD; Infectious diseases, critical care (ICU), emergency medicine
- **Richard Bruns**, PhD; Economic modelling, cost-benefit analysis
- **Meghan Davis**, PhD, DVM, MPH; One Health, agriculture, spillover surveillance, workforce preparedness
- **Gigi Gronvall**, PhD, Global catastrophic biological risks, biotechnology, health security
- **Tom Inglesby**, MD; Global catastrophic biological risks, public health preparedness, biological threats
- **Tara Kirk Sell**, PhD; Global catastrophic biological risks, public health policy, mis/disinformation
- **Michael Montague**, PhD; Biosecurity implications of emerging biotechnologies, agriculture and industry.
- **Alexandra L. Phelan**, SJD, LLM, LLB; Global health and climate change, international law and global health policy, international health regulations, pathogen and data sharing
- **Sanjana Ravi**, PhD, MPH; Global health policy, infectious disease management, public

health & healthcare preparedness

- **Caitlin Rivers**, PhD; Global catastrophic biological risks, outbreak science, emerging infectious diseases
- **Monica Schoch-Spana**, PhD; Medical anthropology, community resilience and engagement, health equity
- **Erin M. Sorrell**, PhD, MSc; Health systems strengthening, biosafety & biosecurity, international health regulations, infectious disease & conflict
- **Eric Toner**, MD; Internal and emergency medicine
- **Tener Goodwin Veenema**, PhD, MPH, MS, RN, FAAN; Disaster, emergency preparedness, health security, nursing, health care worker protection
- **Crystal Watson**, DrPH; Global catastrophic biological risks, risk assessment, crisis decision making

Track in Health Security Curriculum

HS Track Required Courses 2024-25

Health Security Journal Club (185.803): Students are required to participate in journal club activities each term where they will engage with multiple faculty members to discuss current topics in health security and global catastrophic biological risks. Students will participate in discussions related to peer-reviewed publications, as well as trends in research and policy, and contemplate and receive feedback on research development.

Track in Toxicology, Physiology, and Molecular Mechanisms

Track Directors
Mark Kohr, PhD and Thomas Hartung, MD

Track Description
Chronic diseases such as COPD, asthma, cancer, pulmonary fibrosis, and cardiovascular diseases are major causes of morbidity and mortality, and environmental exposures are the key drivers of these diseases. Research in the Toxicology, Physiology and Molecular Mechanisms (TPMM) track is focused on discovering novel molecular mechanisms that drive the pathophysiology of major chronic diseases, with the goal of developing prevention and therapeutic strategies to improve public health. The track is supported by NIEHS and NHLBI research training grants.

Students in this track will engage in academic training in specific areas of environmental health with in-depth courses in molecular, toxicologic, physiologic, immunologic, and pathophysiologic sciences. Prior to focusing on a specific area of thesis research, they will also obtain a broad background in environmental health sciences by taking core courses that underlie its scientific basis. During the first year, students will begin to engage in research by doing lab rotations with selected faculty. Training in writing scientific papers and grant proposals is also included in the curriculum.

The research done by PhD students, postdoctoral fellows, and faculty has led directly to an enhanced understanding of the biological changes that represent the early stages and progression of many chronic diseases. The track is aimed towards creating the next generation of scientists with laboratory skills to tackle complex environmental effects in individuals and in the population. Graduates can look forward to successful careers in academic or industrial research and government or regulatory agencies.

TPMM Track Advising Faculty
- **Joseph P. Bressler**, PhD; Neurotoxicology
- **John D. Groopman**, PhD; Molecular biomarkers of environmental carcinogens and chemoprevention
- **Thomas Hartung**, MD, PhD; Developmental neurotoxicity, immunotoxicity &
- endocrine disruption with integrated omics-technologies
- **Mark Kohr**, PhD; Sex-dependent differences in cardiovascular physiology and disease; redox signaling mechanisms
- **Fenna Sillé**, PhD, MS; Developmental immunotoxicity in the context of chronic/ infectious diseases & vaccine efficacy
- **Lena Smirnova**, PhD; Neurodevelopment
- **Ramana K. Sidhaye**, MD; tobacco products, lung injury, macrophages, Systemic Inflammatory Response Syndrome, asthma, oxidative stress, air pollutants, gene expression

TPMM Program Faculty
- **Shyam Biswal, PhD**; Molecular mechanisms, pathophysiology, therapeutics of COPD and lung cancer

Track in TPMM Curriculum

PhD in Geography and Environmental Engineering

Program Director
Scot Miller, PhD

Program Description
A PhD student in the Department of Environmental Health and Engineering will explore the current state of knowledge in his or her field. Information and ideas developed by others are critically examined and placed in proper context. Subject areas are identified that are important to achieving the goals of the discipline, but which have not been explored or developed. The student will propose new research to improve understanding in this key area. A research proposal should then outline, in an orderly and logical manner, how key questions are addressed. While pursuing these research hypotheses, the student must take time to consider alternative explanations for experimental observations and devise new experiments that critically test assumptions and theories. The student will learn to state problems clearly and solve them in a reliable and efficient manner. Whatever lines of reasoning one uses, one must be sure as possible that the conclusions are correct, particularly since there is always some uncertainty in science and engineering. The student must think through his/her research plans to avoid unproductive activities. Because research involves managing time and resources, the PhD student is receiving excellent preparation for future professional work.

Track Faculty
- **Peter DeCarlo**, PhD; Air quality and pollution, environmental chemistry, climate change
- **Hugh Ellis**, PhD; Environmental systems analysis, Data Analytics, Air Quality Modeling
- **Paul Ferraro**, PhD; Behavioral science; casual inference in socio-ecological systems
- **Ciaran Harman**, PhD; Mechanics and dynamics of the natural environment, especially related to water. Modeling, data analytics, fieldwork.
- **Benjamin Hobbs**, PhD; Use of operations research and economics to develop cost-effective environmental and energy policies, design infrastructure, and optimally control electric power and environmental systems
- **Scot Miller**, PhD; Greenhouse gases, air pollution, atmospheric science
- **Carsten Prasse**, PhD; Environmental chemistry, exposome science, water treatment
- **Sarah Preheim**, PhD; Environmental microbiology and ecology, bioinformatics
- **Gurumurthy Ramachandran**, PhD, CIH; Exposure assessment, nanoparticles, risk assessment for nanomaterials
- **Ruggero Rossi**, PhD; electrochemistry, bio/electrochemical processes, water electrolysis
- **Alan Stone**, PhD; Tools and concepts from inorganic, organic, physical, and analytical chemistry are used to address challenges arising in aquatic environments
- **Shilva Shrestha**, PhD; environmental biotechnology, resource recovery, microbial ecology, anaerobic digestion and fermentation technology

				Credits
180.640	Molecular Epi and Biomarkers in Public Health	T, Th 3-4:20	3	4
183.643	Essentials of Pulmonary Function Measurements	TBA	4	3
187.645	Toxicology 21: Scientific Applications	Online	3	3
187.650	Alternative Methods in Animal Testing	Online	3	3
187.655	Evidence-Based Toxicology	Online	4	3
187.661	Environmental Health in Neurological and Mental Disorders	Online	4	3

GEE Curriculum

Required Courses

Depending on their prior preparation and research focus, students may alternatively choose courses outside the lists below or outside the department, in consultation with their advisor:

- M. Gordon Wolman Seminar (every semester)
- Three additional courses drawn from at least two Focus Areas: Environmental Science and Engineering
- Environmental Systems Analysis, Management and Economics Public Health/ Environmental Health

POLICY ON MENTORING COMMITMENTS FOR PhD STUDENTS AND FACULTY ADVISORS

Johns Hopkins University has a commitment to quality mentoring of PhD students, in support of the mission of excellence in PhD education at Johns Hopkins. As such, the university requires every PhD-granting school to undertake ALL of the following:

1. Distribute "JHU Mentorship Commitments of Faculty Advisors and PhD Students" to all PhD students and all PhD-advising faculty at least annually;
2. Identify when and by whom (role) the "JHU Mentorship Commitments of Faculty Advisors and PhD Students" will be distributed annually to students and to faculty advisors;
3. Ensure that the "JHU Mentorship Commitments of Faculty Advisors and PhD Students" are included in student handbooks
4. Ensure that the "JHU Mentorship Commitments of Faculty Advisors and PhD Students" are included in both new student orientation and new faculty orientation materials and/or sessions;
5. Identify a point person within each PhD program or department, as well as at the school level, to whom students can go if they have questions or concerns related to their own PhD advisor. This should include:
    - A description of how it is communicated to students that they may go to this named person with questions or concerns about advising;
    - A description of the functions the person may perform to assist with the advising situation (e.g., mediation, coaching, training, co-mentoring, switching advisors).
    - A description of the back-up procedure should the primary person be involved in the situation him/her/themselves or be temporarily unavailable.

In addition, it is the responsibility of the school's dean's office to ensure, either within the school as a whole or within each PhD program (or through a combination thereof), that at least two strategies (e.g., from list below, or others) will be used to enhance and support an effective mentoring environment. Examples of mentoring supports are listed below. Additional supports, and additional innovative ideas to support effective mentoring, are encouraged.

1. Dean's or chair's communication about the importance of good PhD advising and mentoring with supporting description of where to go with any concerns;
2. Workshops, lunches, or discussions about PhD mentoring (could include external guests with experience with mentoring, case discussions among faculty, best practice discussions, discussions of hard cases, etc.);
3. Mentoring awards:

- Smaller vs. larger number given annually within a school
- With or without financial award
- High visibility and celebration around awardees

4. Training on how to be a great mentor:

- Length, format, target audience, topics, etc. to be determined by program and/or school

5. **Robust thesis committee structure**
    - Required 1-2x annually
    - Goal: Broader intellectual input to student's work; also can diffuse singular power of mentor
    - May choose to allow time in each meeting when i) the advisor leaves the room; and ii) the student leaves the room.
    - Letter generated after meeting with consensus of where things stand and goals for upcoming year. Distributed to student and all committee members

6. **Mechanism to provide feedback on advisor's and student's adherence to commitments:**
    - Option: More formal survey/evaluation of each commitment
        - Returned to advisor/student?
        - Collected by program head or department chair?
        - Collected centrally by an institutional research office within school?
    - Option: Ask student to identify three mentoring commitments the advisor is meeting the best and three commitments to work on for coming year. Faculty advisor does same for student.
    - Option: Advisor asks student: "What is the one thing I should work on in the coming year?" Student asks advisor the same.

7. **Mentoring mavens**

Each school identifies a few highly-effective faculty mentors to be master mentors, able to chat with or coach others, able to counsel students, able to serve on panels providing tips for effective mentoring; also serves as important recognition

8. Any other strategy suggested by the program or school that is also designed to support a culture of excellence in mentoring

JHU Mentorship Commitments of Faculty Advisors and PhD Students

This document outlines mentoring expectations of faculty advisors and of PhD students at Johns Hopkins University. These expectations should be discussed together. Faculty advisors should commit to the following responsibilities:

Training

- The PhD advisor has the responsibility to mentor the PhD student. This responsibility includes committing to the training of their PhD student, building on the PhD student's individual professional background and in support of their individual professional aspirations.
- The PhD advisor has the responsibility to participate in ongoing and regular meetings with their advisees to discuss academic and research progress. The advisor and student should agree on expected frequency of and preparation for meetings and use meetings to brainstorm ideas, troubleshoot challenges, and outline next steps. The advisor should identify a co-advisor/mentor should the primary advisor be unavailable for an extended period (sabbatical, leave, etc.).
- The PhD advisor has the responsibility to participate in a formal annual meeting with the

student to discuss academic progress and next steps in the academic program. This responsibility includes helping to ensure that the document summarizing this annual discussion is completed and submitted in accordance with program requirements.
- The PhD advisor has the responsibility to encourage their advisees to reach out, as relevant, to additional co-advisors or informal mentors.
- The PhD advisor has the responsibility clarify the student's funding package and to clarify any work and/or teaching expectations associate with the package.
- The PhD advisor has the responsibility to contribute to a training environment that fosters independent, scholarly research, and professional growth.

Research

- The PhD advisor has the responsibility to provide guidance in scholarly research. This responsibility includes helping to identify a workable research project and helping to set reasonable goals and timelines for research completion. The advisor should encourage the student to expand their skill sets and share ideas with others at Johns Hopkins and externally.
- The PhD advisor has the responsibility to monitor research progress. The advisor should encourage effective use of time. The advisor should meet regularly with the PhD student to hear updates on progress, results, and challenges in activities and research.

Professional development

- The PhD advisor has the responsibility to discuss career development with the PhD student, including in any number of sectors of interest to the student. PhD advisors should assist in identifying resources to further the student's professional goals.
- The PhD advisor has the responsibility to participate in a formal annual meeting with the PhD student to discuss professional development goals. The advisor should help to ensure that the document summarizing this discussion is completed and submitted in accordance with program requirements.
- The PhD advisor has the responsibility to nominate the student for relevant professional opportunities and try to connect their advisees to relevant professional contacts and networks.
- The PhD advisor has the responsibility to allow time outside of research for student engagement in professional development activities including, for example, skill building workshops, professional conferences, additional research collaborations, or other informational sessions.

Respectful engagement and well-being

- The PhD advisor has the responsibility to treat their advisees, other students, and colleagues with respect at all times.
- The PhD advisor has the responsibility to commit to being available to meet with the PhD student. The advisor and the student should agree on expected frequency of and preparation for meetings, and expected timeframe for responding to emails and for providing feedback on work products. The PhD advisor should give their full attention during meetings and should reach out to PhD students who are not making contact.

- The PhD advisor has the responsibility to be supportive during both successful and discouraging periods of training.
- The PhD advisor has the responsibility to communicate in a respectful and constructive manner, including if the advisor has concerns that the PhD student is not meeting the expectations outlined in this document. This responsibility includes using concrete and specific language when providing suggestions or critiquing work.
- The PhD advisor has the responsibility to take an interest in the student's well-being, to listen to any concerns, and to connect the student, as appropriate, with additional resources.

Policies

- The PhD advisor has the responsibility to become familiar with and respect University, school, and program policies for PhD students. The advisor will acknowledge all PhD student benefits and entitlements, including, as relevant, paid and unpaid leave.
- The PhD advisor has the responsibility to discuss with the student relevant policies, commitments, and expectations related to funding, work, research assistantships, teaching assistantships, sick leave, or vacation.

Responsible conduct

- The PhD advisor has the responsibility to become familiar with university and professional codes of responsible conduct for PhD students. This responsibility includes reporting any possible violations as required to relevant parties, including to the relevant Dean's office and to the Office of Institutional Equity.
- the PhD advisor has the responsibility to discuss and help clarify authorship or intellectual property issues and appropriately recognize the student's contributions to any collaborative work.
- The PhD advisor has the responsibility to model professional behavior in both interpersonal interactions and in scholarly integrity.
- The PhD advisor has the responsibility to complete Title IX Training regarding sexual misconduct and sexual harassment as required by the University. http://oie.jhu.edu/training/

Continuous quality improvement as an advisor

- The PhD advisor has the responsibility to participate in mentor training and best practices discussions. This responsibility includes striving to be a better mentor and to learn tips and practices that improve their work and skills as an advisor.
- The PhD advisor has the responsibility to ask advisees for constructive feedback on mentoring. This responsibility includes doing their best to respond professionally to these suggestions and consider whether or how best to incorporate them into their mentoring interactions.

PhD students should commit to the following responsibilities

Training

- The PhD student has the primary responsibility for the successful completion of their degree.
- The PhD student has the responsibility to familiarize themselves with academic milestones and to strive to meet all milestones within the expected timeframe.
- The PhD student has the responsibility to meet regularly with the PhD advisor. This responsibility includes providing the advisor with updates on the progress, outcomes, and challenges in coursework, research, and academic or professional activities. The advisor and the student should agree on expected frequency of and preparation for meetings, and will use meetings to brainstorm ideas, troubleshoot challenges, and outline expectations for work and timelines.
- The PhD student has the responsibility to participate in a formal annual meeting with the advisor to discuss academic progress and next steps in the academic program. The student should ensure that the document summarizing this discussion is completed and submitted in accordance with program requirements.
- The PhD student has the responsibility to seek additional mentors to expand their training experience, as appropriate.
- The PhD student has the responsibility to understand the responsibilities (work and coursework) associated with their funding. Sources of funding typically are included in appointment letters.

Research

- The PhD student has the responsibility to work with the advisor to develop a thesis/ dissertation project. This responsibility includes establishing a timeline for each phase of work and striving to meet established deadlines.
- The PhD student has the responsibility to seek guidance from their advisor, while also aspiring increasingly for independence.
- The PhD student has the responsibility to engage in activities beyond their primary research responsibilities. The student should attend and participate in any research-related meetings and seminars relevant to their training area.

Professional development

- The PhD student has the primary responsibility to identify their professional goals and to develop their career plan following completion of the PhD degree. This responsibility includes familiarizing themselves with professional development opportunities within Johns Hopkins and externally. Students should identify specific activities to pursue that will advance their professional development and networking.
- The PhD student has the responsibility to prepare a Professional Development Plan annually that outlines their research and career objectives. This responsibility includes discussing this plan annually with the advisor. The student should ensure that the document summarizing this discussion is completed and submitted in accordance with program requirements.

Respectful engagement and well-being

- The PhD student has the responsibility to treat the advisor, other mentors, and colleagues with respect at all times.
- The PhD student has the responsibility to make themselves available, within reason, to meet with the advisor upon request.
- The PhD student has the responsibility to communicate in a respectful and constructive manner if they have concerns that the advisor is not meeting the expectations outlined in this document.
- The PhD student has the responsibility to be open to constructive criticism by the advisor, other mentors, and colleagues.
- The PhD student has the responsibility, as possible, for their well-being, should consider discussing any concerns with the advisor or other mentor(s), and should connect with available resources when needed.

Policies

- The PhD student has the responsibility to familiarize themselves and comply with University, school, and program-specific policies and requirements for PhD students.
- The PhD student has the responsibility to discuss with the advisor relevant policies, commitments, and expectations related to funding, work, research assistantships, teaching assistantships, sick leave, or vacation. As needed, the student will provide any documentation relevant to stated policies on leave and other requirements to the student's program, school, or the University.

Responsible conduct

- The PhD student has the responsibility to conduct themselves in a responsible and ethical manner at all times.
- The PhD student has the responsibility to familiarize themselves with University codes of responsible conduct for PhD students.
- The PhD student has the responsibility to engage in responsible research conduct. This responsibility includes completing the responsible conduct of research training requirements of their specific school and program, and any specific discipline training requirements (e.g., animal and human subject work). The student will maintain accurate and contemporaneous records of research activities in accordance with the norms of best practices in their own discipline. The student should discuss authorship and intellectual property issues with the advisor.
- The PhD student has the responsibility to complete Title IX Training regarding sexual misconduct and sexual harassment as required by the University. http://oie.jhu.edu/training

NON-DEGREE TRAINING

Postdoctoral Fellowship

Postdoctoral Fellows Program Director: John Groopman, PhD

The Department welcomes individuals who have completed doctoral degrees to postdoctoral fellow (PDF) affiliations. PDFs identify a mentor and enjoy advising from faculty and use of the School's facilities. Prospective PDFs should submit a PDF application. The Application requires proof of sponsorship by either the School or an outside agency for the entire period of the program. Post-doctoral fellows may not use personal funds to support themselves during their program. PDFs will not be able to register, be paid, and/or buy health insurance until verification of their official receipt of the doctoral degree is filed and their PDF application is formally approved.

After being admitted to the Program, each fellow should design, in collaboration with their faculty mentor, an Individualized Development Plan for their research time with the Department. PDFs should discuss the anticipated duration of their fellowship with their mentor when they begin the fellowship. PDFs wishing to extend their position beyond the agreed upon time in the acceptance letter will need to send a letter of request and a report of accomplishments or work completed over the past year to their mentor. After meeting with their mentor, PDFs should send these materials to the Senior Academic Coordinator for the Department and copy their mentor. PDFs are evaluated annually and must maintain an appropriate level of professionalism and scientific research for the duration of their program.

PDFs must adhere to the student code of conduct for all students of the Johns Hopkins Bloomberg School of Public Health. PDFs are considered non-degree seeking students and should register for 16 credits during each course term. The Postdoctoral Research Credits course number is 340.830. Tuition for PDFs is set at $200 per term by the School and a postdoctoral scholarship covering tuition is generally granted. PDFs have the option of taking up to 16 credits of courses during their fellowship period. PDFs who wish to take academic classes should discuss this with their research mentor as part of their Individualized Development Plan; these courses cannot be transferred into a degree program at a later date. Please visit the School's PDF website and PDF guidebook (see links below) for additional critical information. EHE Department PDFs are encouraged to participate in the Johns Hopkins Postdoctoral Association (JHPDA).

Upon satisfactory completion of their program, PDFs are issued a Certificate of Completion. PDFs must submit a request form and provide an updated curriculum vitae, a forwarding address, and the start and end dates, approved by their mentor, to the Academic Core Office.

Helpful Links

BSPH Postdoctoral Training
Postdoctoral Fellows Policy and Procedures Memorandum (PPM)
Postdoctoral Fellows Guidebook
Johns Hopkins Postdoctoral Association (JHPDA)

ADVISER AND ADVISEE RIGHTS AND RESPONSIBLITIES

Each student in the Department is assigned an adviser and selects co-adviser(s) as they move through the program; adviser(s) have the responsibility of serving as a guide and mentor. This section is intended to guide the student and the faculty member(s) in making the adviser/advisee relationship as successful as possible. The section has two goals:

- To provide answers to questions that students frequently ask and,
- To provide guidance on how the student and adviser can interact most effectively Academic

Advisers should:

- Provide oversight of the student's academic progress by:
- Assisting in the selection of courses
- Ensuring the student is meeting degree milestones in a timely manner
- Being available for regular meetings with the student
- Assessing and developing the student's interests and abilities
- Monitoring student progress in academic coursework through periodic examination of transcripts
- Monitoring student progress in fieldwork
- Writing letters of reference
- Assisting with grant preparation (doctoral students)
- Referring students to the appropriate individuals or offices that provide academic support and/or resources

Provide leadership in matters of academic integrity, by:

- Being knowledgeable about ethical issues that pertain to academics, research, and practice
- Helping students interpret and understand institutional policies and procedures regarding the responsible conduct of research
- Discouraging students from circumventing institutional policies and procedures, and when confronted with such issues, directing students to appropriate institutional resources or contacts, avoiding actual or appearance of conflicts of interest
- Respecting confidentiality of students

Encourage active participation in the greater community (department, school, university, local, state, national, international).

STUDENTS MAY EXPECT THE FOLLOWING FROM THEIR ADVISER(S)

- Advisers' approval for course registrations, course changes, and pass/fail agreements, and on all reasonable petitions to the Admissions and Credentials Committee
- At least one meeting per term with the advisers
- Oversight of the student's overall academic program and a sensitivity to any academic difficulties

- Knowledge of and interest in the student's career objectives Review of required and recommended courses for the track
- Assistance in designing a plan for the fulfillment of required courses and assistance with planning the course schedule for the year

Advising students is an integral part of faculty members' responsibilities. Thus, students should not feel that they are imposing by asking for advice. Faculty members expect to be available to students, although the students should be respectful of the faculty's time by scheduling and respecting appointments. The responsibility for arranging meetings lies with the student. Students should not expect advisers to seek them out for needed appointments.

The student remains obligated to schedule a meeting in order to assure that the adviser has reviewed the student's schedule and to plan any special studies projects or thesis research as needed with the adviser before the registration period deadline.

RIGHTS AND RESPONSIBILITIES OF THE ADVISER(S)

- To assist in determining the advisee's educational goals and needs upon starting the program To serve as an educational and/or professional mentor for the student
- To maintain awareness of and sensitivity to the level of compatibility between the student advisee and the advisers in terms of academic, professional, and personal interests
- To facilitate a change of adviser or program, if deemed appropriate for the student
- To monitor the advisee's overall academic program and be sensitive to signs of academic difficulty
- To provide guidance throughout the academic program
- To be sensitive to cultural, medical, legal, housing, visa, language, financial, or other personal problems experienced by the advisee and to be aware, sensitive, understanding, and supportive Advisers have the right to expect be treated with respect and courtesy, to be notified in writing when a meeting must be cancelled or rescheduled, to be consulted when students have questions or concerns about the research focus or progress, to be given a reasonable amount of time to review documents, and to serve as team leader on the research team

RIGHTS AND RESPONSIBILITIES OF THE ADVISEE

- To arrange to meet with the adviser at least once each term, and observe registration and administrative deadlines
- To identify and develop professional career goals and interests
- To understand administrative policies and procedures and be familiar with the Student Handbook
- To maintain the academic checklist and review it at meetings with the advisers
- Advisees have the right to expect be treated with respect and courtesy, to be notified in writing when a meeting must be cancelled or rescheduled, to be notified when advisers have questions or concerns about the research focus or progress, and to be granted the role of team member on the research team

TITLE IX

Title IX of the Education Amendments of 1972 ("Title IX") prohibits discrimination with a basis on sex in any federally-funded education program or activity. Title IX affects almost every facet of JHU. Johns Hopkins University requires that all faculty, students, and staff complete the Title IX training. For additional information and trainings, please visit the University's Office of Institutional Equity website.