ENVIRONMENTAL HEALTH, SCM

ScM in Environmental Health

The Master of Science (ScM) in Environmental Health (https://ehe.jhu.edu/graduate/masters-programs/master-of-science-in-environmental-health/) is intended for individuals with a strong interest in pursuing research in one of the various areas within environmental health. Typically, students have prior hands-on experience in laboratory, field or population-based investigations that they would like to build upon. ScM students write a thesis that is based on original research carried out by the student under the direction of a faculty adviser.

Graduates of the program are well-prepared to transition directly into opportunities for further training and research through doctoral degree programs in their primary areas of interest. For those wishing to apply their knowledge and research skills in the field of environmental health prior to pursuing advanced degrees, the ScM will position graduates to compete for research positions in the private sector, federal agencies and non-governmental organizations.

Program Director:
Megan Latshaw, PhD, MHS

Program Requirements

Coursework

Each term, students should register for at least 16 credits in order to reach the 64-credit requirement. Students reach this 16-credit-per-term minimum by first registering for the required courses, then choosing among the elective courses. Please refer to the course directory (https://www.jhsphs.edu/courses/) for the most current course information. Students should consult their adviser about options for meeting the biostatistics and epidemiology course requirements.

After completing fourth-term coursework and successfully passing the comprehensive exam, the student begins a year-long research project under the direction of their adviser. During the second year, full-time enrollment must be maintained by taking a minimum of 16 credits of PH.183.825 EHE ScM Thesis Research in each of the four terms. Students are required to participate in all journal clubs, seminars, and meetings deemed necessary by the faculty research adviser. Students will be expected to complete the program at the end of the fourth term of their second year.

Students must successfully complete 64-credits of coursework and successfully passed the comprehensive exam to be considered for the Master’s Tuition Scholarship (MTS) (https://publichealth.jhu.edu/offices-and-services/office-of-admissions-services/funding-and-scholarships/) in the second year. Students must meet all curriculum, grade, GPA, and registration requirements.

Course location and modality is found on the BSPH website (https://publichealth.jhu.edu/academics/course-directory/coursesession-numbers-explained/).

Required Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PH.550.860</td>
<td>Academic &amp; Research Ethics at BSPH</td>
<td>0</td>
</tr>
<tr>
<td>PH.180.609</td>
<td>Principles of Environmental Health</td>
<td>4</td>
</tr>
</tbody>
</table>

Electives

<table>
<thead>
<tr>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>The Global Environment, Climate Change, and Public Health</td>
<td>4</td>
</tr>
<tr>
<td>Public Health Emergencies: Risk Communication and Decision Science</td>
<td>3</td>
</tr>
<tr>
<td>Fundamentals of Occupational Health</td>
<td>3</td>
</tr>
<tr>
<td>Health of Vulnerable Worker Populations</td>
<td>3</td>
</tr>
<tr>
<td>Risk Policy, Management and Communication</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Food Systems and Public Health</td>
<td>4</td>
</tr>
<tr>
<td>Protecting the Environment and Safeguarding Worker Health: A Problem-Based Approach</td>
<td>3</td>
</tr>
<tr>
<td>Biochemistry II: Major Metabolic Pathways</td>
<td>5</td>
</tr>
<tr>
<td>The Health Effects of Indoor and Outdoor Air Pollution</td>
<td>3</td>
</tr>
<tr>
<td>Food System Resilience to Disasters: COVID-19, Climate Change, and Beyond</td>
<td>2</td>
</tr>
<tr>
<td>Molecular Toxicology</td>
<td>4</td>
</tr>
<tr>
<td>Global Sustainability &amp; Health Seminar</td>
<td>1</td>
</tr>
<tr>
<td>Fundamentals of Human Physiology</td>
<td>4</td>
</tr>
<tr>
<td>Toxicology 21: Scientific Foundations</td>
<td>1</td>
</tr>
<tr>
<td>Fundamentals of Clinical Oncology for Public Health Practitioners</td>
<td>3</td>
</tr>
<tr>
<td>Environment and Health in Low and Middle income Countries</td>
<td>2</td>
</tr>
<tr>
<td>Infectious Disease Threats to Global Health Security</td>
<td>3</td>
</tr>
<tr>
<td>Biotechnology and Health Security</td>
<td>3</td>
</tr>
<tr>
<td>Food- and Water- Borne Diseases</td>
<td>3</td>
</tr>
<tr>
<td>Baltimore Food Systems: A Case Study of Urban Food Environments</td>
<td>4</td>
</tr>
<tr>
<td>Community-Driven Epidemiology and Environmental Justice</td>
<td>3</td>
</tr>
<tr>
<td>Energy, Environment, and Public Health</td>
<td>2</td>
</tr>
</tbody>
</table>
presents the key components of the research plan. Students will enroll in the F32 research proposal, which includes an in-depth review of the literature and the product, formatted similar to a NIH R21 or R01 grant application.

During the first year of the program, ScM students draft a proposal for their research project. The proposal requires the student to demonstrate their knowledge of the proposed research – its rationale, approaches, and methodologies – as well as its relevance and potential contributions within the broader perspective of environmental health. The research proposal serves as the written basis for the comprehensive examination. Students must pass the comprehensive examination prior to beginning the research year of the program and to be eligible for the second year Master’s Tuition Scholarship (MTS) program.

The ScM degree requires successful completion of a research project and the writing of a master’s thesis based on that work. The research will be completed under the direction of a faculty mentor (research adviser) who is a member of the Department of Environmental Health and Engineering. The work must represent an original hypothesis-driven investigation on a topic of interest to the student and agreed upon by the adviser. The format will adhere to University guidelines which can be found on the Johns Hopkins Sheridan Libraries website. The document quality must be suitable for publication in a peer-reviewed scientific journal.

Students are required to present their research during the MHS & ScM student presentation days in May. Presentations should be 10 minutes in length followed by 5 minutes of questions and answers from faculty and students.

### ScM Policies
#### Advisers
All master’s students will be assigned an adviser, who serves as the primary contact for the Department, assists the student with course selection each term, approves their essay or thesis, and helps interpret Departmental and School policies. The student is free to change advisers, but this change must be approved by the program director and sent to the academic coordinator via email. For students in the ScM, initially-assigned advisers may change when a student transitions from the MHS to the ScM program at the end of term 2 in the first year of the program.

### Assessment of Progress
Students must meet minimum academic standards to remain in the master’s program. Each term the student should review grades from the previous term with their adviser. Specific goals will be determined following this review. A student who is experiencing academic difficulty will be notified in writing if they are expected to achieve a specific GPA during the upcoming term. Failure to meet any of the following criteria is grounds for dismissal from the program.

### Cumulative GPA
The School requires master’s students to maintain a minimum 2.75 cumulative grade point average. Students with a GPA falling below 2.75 will be placed on academic warning and will have one term of registration in which to raise their GPA above the threshold for their degree. The academic coordinator will notify students placed on academic warning and their performance will be reviewed by the Educational Programs Committee (EPC). All recommendations about academic standing will

### Research Proposal
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### Comprehensive Examination
Upon completion of first year coursework, ScM students complete the comprehensive examination. The comprehensive examination requires the student to demonstrate their knowledge of the proposed research – its rationale, approaches, and methodologies – as well as its relevance and potential contributions within the broader perspective of environmental health. The research proposal serves as the written basis for the comprehensive examination. Students must pass the comprehensive examination prior to beginning the research year of the program and to be eligible for the second year Master’s Tuition Scholarship (MTS) program.

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be then presented to the Department’s Executive Committee for final disposition. 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 coordinator) 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.

Grades in Core Courses
Students must earn a minimum grade on a set of required program-specific core courses: “Pass” for courses offered only on a pass/fail basis; “C” or higher for master’s students for courses offered for letter grading. A student who earns a grade below that threshold in a course that meets a core requirement must, at the next opportunity, make a second attempt to complete the core course by repeating the same course or by completing another course that has been approved by the program director. A grade below the threshold on the second attempt may be grounds for dismissal and must be reported to the School’s Committee on Academic Standards.

Department Retreat
Each January, the EHE faculty and students attend a retreat that includes faculty presentations and student posters on research currently be conducted in the department. The retreat ends with a keynote talk from an investigator outside of EHE. The retreat provides both ScM and MHS students with the chance to meet faculty and students and learn more about research being conducted in the department. Attending the retreat, including talks and poster sessions, is expected for ScM students and optional for MHS students.