

MASTER'S PROGRAMS

MASTER'S PROGRAMS

PROGRAM DESCRIPTION

The Department of Environmental Health Sciences offers two master's degree programs: the academic Master of Health Science (MHS) in Environmental Health and the professional Master of Science in Public Health (MSPH) in Occupational and Environmental Hygiene. These programs are designed to address the educational and training needs of students within the broad range of disciplines in the field of environmental health, as described below.

ADVISORS

All new students enrolled in the master's program will be assigned an advisor before their arrival. The advisor serves as the primary contact for the Department and will assist the student with course selection each term, preparation of their essay and presentation, and the interpretation of departmental and School policies. The student is free to change advisors, but this change must be approved by the appropriate program director and the Department's Academic Programs Manager must be notified via email.

Students are required to review the current term's registration details with their advisor before the end of the add/drop period each term (see: www.jhsph.edu/academics/calendar).

TIMELINE

Most students in the academic MHS in Environmental Health complete their degree on a full-time basis within four academic terms (nine months). Additional terms of study are allowed as long as the student is making satisfactory academic progress.

The professional MSPH in Occupational and Environmental Hygiene program requires an internship and typically requires six terms (a year and a half of study) when taken on a full-time basis. Students in either program who choose to attend on a part-time basis may take up to three academic years to complete their program.

All Master's students should notify the appropriate program director and the Academic Programs Manager if they are not able to maintain continuous registration status.

ASSESSMENT OF PROGRESS

Each term the student and their advisor will review grades from the previous term. 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 a term. Students must meet minimum academic standards to remain in the Master's Program. Failure to meet any of the following criteria is grounds for dismissal from the program.

- To maintain good academic standing, a student must maintain a minimum of 2.50 cumulative grade point average. Students falling below 2.50 will have one term, or 16 additional units of coursework, to raise the GPA above 2.50.
- Students must attain a grade of “C” or better in all required courses that are offered for a letter grade in the core curriculum..
- Students must retake a course in which they received a grade of “D” or “F”.
- If a student receives a grade of “D” or “F” twice in the same required course, they may not repeat the course a third time. If the course is a required core course with no other options, that is grounds for dismissal.

BA/MASTER’S PROGRAM (BA/MHS OR BA/MSPH)

Undergraduate students currently enrolled in the Johns Hopkins University Krieger School of Arts and Sciences program in Public Health have a unique opportunity to receive both bachelor’s and master’s degrees.

The Johns Hopkins Bloomberg School of Public Health Department of Environmental Health Sciences offers early graduate school admission to students enrolled in this undergraduate program. Applications for the BA/Master’s degree must be submitted by July 1 between the junior and senior years to ensure completion of the review process prior to the first day of the academic year. Students must be accepted before the start of their senior year. Standardized test scores are not required for application to the BA/Master’s program. A waiver of the requirement for these scores for matriculation into the Master’s program will be granted to students who achieve a GPA of 3.0 or better in Public Health coursework taken at SPH during their senior year while in the BA/ Master’s. Both master’s programs, MHS in Environmental Health and MSPH in Occupational and Environmental Hygiene, participate in the BA/Master’s degree but the applicant must specify one of these programs on the application. The application fee is waived for BA/Master’s applicants.

The graduate credits taken at the Bloomberg School of Public Health while in the BA/Master’s apply toward the BA and one half of these (up to 16 credits) may also be used to fulfill Master’s degree requirements. Students in this program will receive co-advising from both schools to optimize their academic experience. Additional information about this program may be found in the Johns Hopkins University Krieger School of Arts and Sciences catalog.

MHS IN ENVIRONMENTAL HEALTH

PROGRAM DESCRIPTION

The academic Master of Health Science program in Environmental Health provides a systematic introduction to environmental health sciences. The program is intended for talented baccalaureate graduates who have a special interest in environmental health and who wish to develop a foundation upon which to base further education and the application of environmental health principles in their long-term career goals. Graduates have pursued higher degrees in various areas of public health and medicine and, while the program is not specifically intended to prepare students for employment, others have taken positions with government and nonprofit agencies and in the private sector. The program is also designed to meet the needs of experienced government or private sector employees who desire to become more qualified in environmental factors involved in health and disease.

Specialization of coursework in the areas of human toxicology and pathophysiology, population environmental health, and sustainability and global environmental health are available. All MHS graduates will have competence in the following areas: basic biological mechanisms; toxicology; statistical evaluation of data; epidemiological studies in environmental health; legal and regulatory issues in environmental health; and occupational or environmental disease from either an engineering or medical perspective. In addition to successful completion of coursework, MHS students are required to prepare an essay addressing an environmental health problem and to make a formal presentation on the topic to an audience of faculty and students. No written or oral comprehensive examination is required for the MHS degree. The program also offers a part-time option, taking advantage of those courses that are offered on-line. The part-time program has the same requirements as the full-time option.

PROGRAMS OF STUDY

Students work in consultation with faculty advisors to select a program of study that best encompasses their area of primary interest and fits with their career goals. Required core courses address topics that include environmental health, toxicology, physiology, epidemiology, risk sciences, and biostatistics. The Department offers three Specialty Tracks of study. These tracks provide students the opportunity to complete a sequence of courses that present an optimal learning experience in selected areas of environmental health that are of special importance in the field. MHS students also have the opportunity to fulfill the requirements necessary to earn either the Certificate in Risk Sciences and Public Policy or the Certificate in Humane Sciences and Toxicology Policy, in addition to the MHS degree. At the end of the program academic year, students may choose to sit for the exam to become Certified in Public Health (CPH) through the National Board of Public Health Examiners. Depending upon previous knowledge, these students may wish to consider taking, in addition to Core and Track Requirements, one introductory course each in Health Policy & Management and Social & Behavioral Sciences.

Each of the Specialty Tracks comprises a body of coursework that is unique to the focus of that track, as described above, and provides the additional course units necessary to achieve the

64-unit minimum needed for graduation. In addition to the Program-Required Core courses listed below, each Specialty Track is composed of a set of Track-Required courses, on the following pages. Electives relevant to student interests comprise the remainder of the 64-unit minimum.

Specialty Track in Human Toxicology and Pathophysiology

The Specialty Track in Human Toxicology and Pathophysiology is designed for students whose interests lay in laboratory-oriented approaches to the study of chemical and biological agents in the environment that affect health and the mechanisms through which they do so. Building upon the required introductory course in toxicology, specialty courses include two each in advanced toxicology, environment-related disease and laboratory-based biostatistics.

Options include completing requirements for either the Risk Sciences or Humane Sciences certificates. Through lectures, discussion and class assignments, students in this track will develop a solid understanding of the ways in which environmental exposures can translate into health risks and the ways in which these risks can be evaluated and mitigated. Ideal applicants to this track will be individuals with strong backgrounds in the basic sciences, including biology and chemistry.

Specialty Track in Population Environmental Health

The Specialty Track in Population Environmental Health builds upon the broad population views of the program-required courses in epidemiology and environmental health principles. It is designed for students whose interests in the basic sciences extend toward the community and social aspects of the impact of environmental factors on health. Specialty track courses include those that present issues and interventive approaches from the population perspective and require participation of students in community outreach activities. The Risk Sciences series may also be completed.

The Specialty Track in Population Environmental Health has two options differing in the biostatistics coursework required. The recommended track, which comprises a three-term sequence, is for those who wish to master the use of the primary statistical approaches and develop the quantitative skills used in epidemiologic research. The second is for students whose interests might only include the need to interpret and critically evaluate study designs and analytical methods presented in the literature. Through coursework and direct participation, students will develop an understanding of the nature of the problems that affect subsets of the population and the challenges faced in their solution. Ideal applicants to this track will be individuals with a strong basic science foundation and an interest in population-related environmental health issues.

Specialty Track in Sustainability and Global Environmental Health

The Specialty Track in Sustainability and Global Environmental Health is designed for students who wish to develop an understanding of the factors that are driving current changes in the global environment and how their consequences affect human health at the individual and

population levels. Students will be exposed to a broad range of topics that are traditionally not in the domains of public health, such as urban planning, transportation policy, energy policy and technology, landscape architecture, and the green building movement. These will be combined with public health skills so that students can critically analyze the challenges and offer a variety of solutions.

Through coursework and seminars, students will learn how choices in the use of land, water, and energy to support transportation systems, food production and distribution, and a growing population impact the environment on local, regional, and global scales. Students will learn why energy prices have been steadily rising, and the evidence for the conclusion that the era of cheap and plentiful energy may be over; and how the implications of this for public health are myriad and serious. Climate change, loss of biodiversity, ecosystem degradation and the depletion of other global resources will be considered in the context of their impact on health on a global scale, and what visions for a sustainable future may look like. Depending upon student goals, the two aforementioned options for biostatistics training are offered. The curriculum includes an option for participation in a sustainability project within the local community.

GRADE AND PROGRAM REQUIREMENTS

As a requirement of the MHS in Environmental Health degree program, the student must write an essay and present the information during a formal seminar. No written or oral comprehensive examination is required for this degree. The MHS essay is intended to serve as an integrating experience for the students. The content is based on an environmental health problem that is pertinent to the educational goals of the student and approved by the advisor. Insofar as the topic allows, the essay must synthesize, to varying extents, information across the spectrum from basic toxicology through exposure assessment and policy.

The essay should represent a substantive application of analytic and technical skills in reviewing, exploring, and (possibly) solving a problem pertinent to environmental health. It is not a research paper or thesis, but rather an informative literature review and case study presentation of a topic of interest to the student. It should thus represent some synthesis of the background of the student with a new understanding of environmental health issues. The essay should be at least 30 pages in length, with at least 30 peer reviewed journal article references. All students must register for three terms of 180.860, Special Studies MHS Essay, corresponding to the last three terms leading to completion of their program requirements – typically 2nd, 3rd, and 4th Terms.

The student will meet with the advisor throughout the essay-writing process in order to ensure fulfillment of 180.860 essay requirements, as well as assure that the essay is properly prepared for presentation and final approval. Ultimately, the essay must be reviewed and approved by the advisor and one other faculty member or expert chosen by the student and approved by the advisor. Students must maintain a GPA of 2.50 while in the program and in order to graduate. The program must be completed within three years.

TIMELINE

Essay Timeline

It is essential that the MHS essay be prepared in a timely manner, so that faculty can provide comments that can be incorporated into the final essay. During the year, certain milestones must be met in preparing the essay, as follows:

Mid-November

Draft outline to advisor/feedback provided

Mid-December

Outline approved (required for satisfactory completion of 2nd Term I80.860 Special Studies)

Mid-January

First draft of essay given to the advisor/feedback provided

Mid- to Late February

Second draft of essay given to advisor; feedback provided

Mid-March

“Final” version of essay given to advisor (required for satisfactory completion of 3rd Term I80.860 Special Studies)

Early April

Essay approved by advisor and sent to one other faculty or expert reader

Mid-April

Corrections to essay based on reader’s comments

End of April (specific date will be announced)

Advisor and one other faculty or expert reader approve essay; Program Director notified by advisor. (required for satisfactory completion of 4th Term I80.860 Special Studies and for graduation)

Early May

Essay Presentation

Partial fulfillment of the MHS degree requirements for this program requires the student to make at least one presentation to an audience of faculty and students of the Department. This presentation will be based on the student’s essay topic, and will typically be held after completion of the written essay. This presentation will strengthen the student’s skills in organizing and presenting specific information. There are no exceptions to the submission of the essay or delivery of the presentation.

**Department of Environmental Health Sciences
Academic Master of Health Science
Specialty Track in
Human Toxicology and Pathophysiology**

Curriculum

TERM 1			TERM 2			TERM 3			TERM 4		
COURSE	U	TIME	COURSE	U	TIME	COURSE	U	TIME	COURSE	U	TIME
180.609 PEH I	4	MW 1 ⁵ -3 ⁵	180.610 PEH II	4	TR 8 ⁵ -10 ⁵	180.860 SS MHS Essay	2	TBA	180.860 SS MHS Essay	2	TBA
340.601 Prin Epi Epi Lab	5	MWF10 ⁵ -11 ⁵ 8 ⁵ -10	183.631 F Human Phys	4	MW 1 ⁵ -3 ⁵	140.615 Biost LabSci I Biostat Lab	4	MWF10 ⁵ -11 ⁵ W 1 ⁵ -3 ⁵	140.616 Biost LabSci II Biostat Lab	4	MWF10 ⁵ -11 ⁵ W 1 ⁵ -3 ⁵
187.610 PH Toxicol	4	WF 3 ⁵ -5	180.860 SS MHS Essay	2	TBA	187.630 Xeno Metab Biomk Dev	4	TR 10 ⁵ -12	187.661 EH Neuro Dis	3	TR 10 ⁵ -12
317.600 Risk Sci I	3	MW 5-6 ⁵	550.865.81 PH Prsp Rs	2	Internet	180.640 Mol Epi Biomk - or -	4	TR 3-4 ⁵	187.620 Env Tox Path	4	WF 3-5*
			550.860.81 Res Ethics*	1	Internet	188.686 Clin EO Tox	3	WF 1 ⁵ -3	187.641 Immu Env Dis	3	TR 1 ⁵ -3*
			187.632 EH Mol Basis	4	MWF10 ⁵ -12	182.640 Food Watr Dis	3	TR 1 ⁵ -3	183.641 Hlth In/Out Air -every other year-	3	MW 1 ⁵ -3
			317.610 Risk Sci II	3	MW 5-6 ⁵	187.650.81 Alt Meth in Animal Testing	3	Internet	317.615 Risk Sci IV	2	M 5-6 ⁵
			120.603 Mol Biol Infla	3	TR 2-3	317.605 Risk Sci III	4	MW 5-6 ⁵	188.860 Tutor Tiss Inj Inflam Rept	3	R 5-7 + TBA Lab
Required	16		*May substitute 306.655 in Term 3 for this course	17		306.665 Res Eth Integ	3	TR 1 ⁵ -3	260.622 Prin Bact Inf †	3	TR 3 ⁵ -5
							13 or 14		† Offered every 2-3 years- check Course Search for current schedule	16	+ 1-2 = 64 Units Minimum

EHS/SPH Required
Track Required
Elective Examples

41
21-22

**Department of Environmental Health Sciences
Academic Master of Health Science
Specialty Track in
Population Environmental Health**

Curriculum A (Biostats Methods)

TERM 1			TERM 2			TERM 3			TERM 4		
COURSE	U	TIME	COURSE	U	TIME	COURSE	U	TIME	COURSE	U	TIME
180.609 PEH I	4	MW 1 ⁵ -3 ⁵	180.610 PEH II	4	TR 8 ⁵ -10 ⁵	180.860 SS MHS Essay	2	TBA	183.631.81 F Human Phys	4	Internet
340.601 Prin Epi Epi Lab	5	MWF 10 ⁵ -11 ⁵ 8 ⁵ -10	180.860 SS MHS Essay	2	TBA	140.623.02 Biostat Methods III Biostat Lab x1	4	TR 10 ⁵ -12	180.860 SS MHS Essay	2	TBA
140.621.02 Biostat Methods I Biostat Lab x1	4	TR 10 ⁵ -12	*187.610.81 PH Toxicol	4	Internet	340.763 Prof Epi Meth1	3	MW 9-9 ⁵ F 9-11 ⁵	182.638 E&H Conc in Water Use/Reuse	4	WF 8 ⁵ -10 ⁵
317.600 Risk Sci I	3	MW 5-6 ⁵	140.622.02 Biostat Methods II Biostat Lab x1	4	TR 10 ⁵ -12	180.880 SS EH Outreach 2 of 5.	2	T 4-6	340.680 Env & Occ Epi	4	MW 1 ⁵ -3 ⁵
550.860 Res Ethics	1	Internet	340.608 Observ Epi	4	MWF 9-9 ⁵	182.640 Food Watr Dis - or -	3	TR 1 ⁵ -3	180.880 SS EH Outreach	1-3	TBA
180.611 Glob Env Hlth	4	TR 8 ⁵ -10 ⁵	340.627 Epi Infect Dis	4	MWF 3 ⁵ -5 ⁵	140.662 Spat Ana GIS I	3	TR 1 ⁵ -3	223.682 Clin Epi Aspec Trop Dis	3	TR 1 ⁵ -3
188.680 Fund Occ Hlth	3	Internet	180.620 Food Prod PH & Env	4	Internet	180.640 Mol Epi Biomk - or -	4	TR 2 ⁵ -4	220.601.81 Intro Internat Hlth	4	Internet
(*move PH Toxicol from term 2 to term 1 if pursuing the Risk Sci. Certificate)			317.605 Risk Sci II	4	MW 5-6 ⁵	182.626 Issues WaSan Trop Env Hlth - or -	2	T 8 ⁵ -10 ⁵	306.630 Glob Hlth Law and Policy	3	R 1 ⁵ -4 ⁵
						180.629 E/O Hlth Law and Policy	4	MW 3 ⁵ -5 ⁵	317.615 Risk Sci IV	2	M 5-6 ⁵
						317.610 Risk Sci III	3	MW 5-6 ⁵	140.663 Spat Ana GIS II	3	TR 1 ⁵ -3
Required	17 (21)			20 (16)			16- 19		340.651 Emer. Infect.	2	TBA
										14	= 67-70 Units

EHS/SPH Required 41
Track Required 26-29
Elective Examples

**Department of Environmental Health Sciences
Academic Master of Health Science
Specialty Track in
Population Environmental Health**

Curriculum B (Biostats Reasoning)

TERM 1			TERM 2			TERM 3			TERM 4		
COURSE	U	TIME	COURSE	U	TIME	COURSE	U	TIME	COURSE	U	TIME
180.609 PEH I	4	MW 1 ⁵ -3 ⁵	180.610 PEH II	4	TR 8 ⁵ -10 ⁵	180.860 SS MHS Essay	2	TBA	183.631.81 F Human Phys	4	Internet
340.601 Prin Epi Epi Lab	5	MWF10 ⁵ -11 ⁵ 8 ⁵ -10	180.860 SS MHS Essay	2	TBA	340.763 Prof Epi Meth 1	3	MW 9-9 ⁵ F 9-11 ⁵	180.860 SS MHS Essay	2	TBA
140.611 Biostat Reas I	3	TR 10 ⁵ -12	*187.610.81 PH Toxicol	4	Internet	180.880 SS EH Outrch	2	T 4-6	182.638 E&H Conc in Water Use/Reuse	4	WF 8 ⁵ -10 ⁵
317.600 Risk Sci I	3	MW 5-6 ⁵	550.865.81 PH Prsp Rs	2	Internet	3 of 5: 182.640 Food Watr Dis -or- 140.662 Spat Anal	3	TR 1 ⁵ -3 TR 1 ⁵ -3	340.680 Env & Occ Epi	4	MW 1 ⁵ -3 ⁵
550.860 Res Ethics	1	Internet	140.612 Biostat Reas II	3	TR 10 ⁵ -12	-or- GIS I	3	TR 1 ⁵ -3	180.880 SS EH Outrch	1-3	TBA
180.611 Glob Env Hlth	4	TR 8 ⁵ -10 ⁵	340.608 Obsrv Epi	4	MWF 9-9 ⁵	-or- 180.640 Mol Epi Biomk	4	TR 3-4 ⁵	223.682 Clin Epi Aspec Trop Dis	3	TR 1 ⁵ -3
188.680 Fund Occ Hlth	3	Internet	340.627 Epi Infect Dis	4	MWF 3 ⁵ -5 ⁵	-or- 182.626 Issues WaSan Trop Env Hlth	2	T 8 ⁵ -10 ⁵	220.601.81 Intro Internat Hlth	4	Internet
(*move PH Toxicol from term 2 to term 1 if pursuing the Risk Sci. Certificate)			180.620 Food Prod PH & Env	4	Internet	-or- 180.629 E/O Hlth Law and Policy	4	MW 3 ⁵ -5 ⁵	306.630 Glob Hlth Law & Policy	3	R 1 ⁵ -4 ⁵
			317.610 Risk Sci II	3	MW 5-6 ⁵	317.605 Risk Sci III	4	MW 5-6 ⁵	317.615 Risk Sci IV	2	M 5-6 ⁵
Required	16 (20)			19 (15)			15- 18		340.651 Emer Infect	2	TBA
										14	= 64-67 Units

39
25-28
EHS/SPH Required
Track Required
Elective Examples

**Department of Environmental Health Sciences
Academic Master of Health Science
Specialty Track in
Sustainability and Global Environmental Health**

Curriculum A (Biostats Methods)

TERM 1			TERM 2			TERM 3			TERM 4		
COURSE	U	TIME	COURSE	U	TIME	COURSE	U	TIME	COURSE	U	TIME
180.609 PEH I	4	MW 1 ⁵ -3 ⁵	180.610 PEH II	4	TR 8 ⁵ -10 ⁵	317.600.81 Risk Sci I	3	Internet	183.631.81 F Human Phys	4	Internet
340.601 Prin Epi Epi Lab	5	MWF 10 ⁵ -11 ⁵ 8 ⁵ -10	187.610.81 PH Toxicol	4	Internet	180.860 SS MHS Essay	2	TBA	180.860 SS MHS Essay	2	TBA
140.621.02 Biostat Methods III Biostat Lab x1	4	TR 10 ⁵ -12	180.860 SS MHS Essay	2	TBA	140.623.02 Biostat Methods III Biostat Lab x1	4	TR 10 ⁵ -12	188.688 Global Sustain Seminar	1	W 12-1 ⁵
550.860 Res Ethics	1	Internet	550.865.81 PH Prsp Rs	2	Internet	180.651 Ener Polic PH	2	M 1 ⁵ -3 ⁵	188.682 Build Land Transprtn & PH	2	F 1 ⁵ -3 ⁵ S(x3) 2-3
180.611 Glob Env Hlth	4	TR 8 ⁵ -10 ⁵	140.622.02 Biostat Methods III Biostat Lab x1	4	TR 10 ⁵ -12	1 of 2: 182.640 Food Watr Dis -or- 180.655 Balt: Urban Food Sys	3	TR 1 ⁵ -3	182.638 E&H Conc in Water Use/Reuse	4	WF 8 ⁵ -10 ⁵
			188.688 Global Sustain Seminar	1	W 12-1 ⁵	180.880 SS EH Outrch	4	WF 10-12	180.880 SS EH Outrch	1-3	TBA
			180.620.81 Food Prod PH & Env	4	Internet	180.629 E/O Hlth Law & Policy	4	MW 3 ⁵ -5 ⁵			
	18			21			16-17			13	68-69 Units

EHS/SPH Required
Track Required
Elective Example

41
27-28

**Department of Environmental Health Sciences
Academic Master of Health Science
Specialty Track in
Sustainability and Global Environmental Health**

Curriculum B (Biostats Reasoning)

TERM 1			TERM 2			TERM 3			TERM 4		
COURSE	U	TIME	COURSE	U	TIME	COURSE	U	TIME	COURSE	U	TIME
180.609 PEH I	4	MW 1 ⁵ -3 ⁵	180.610 PEH II	4	TR 8 ⁵ -10 ⁵	317.600.81 Risk Sci I	3	Internet	183.631.81 F Human Phys	4	Internet
340.601 Prin Epi Epi Lab	5	MWF 10 ⁵ -11 ⁵ -8 ⁵ -10	187.610.81 PH Toxicol	4	Internet	180.860 SS MHS Essay	2	TBA	180.860 SS MHS Essay	2	TBA
140.611 Biostat Reas I	3	TR 10 ⁵ -12	180.860 SS MHS Essay	2	TBA	182.640 Food Watr Dis	3	TR 1 ⁵ -3	188.688 Global Sustain Seminar	1	W 12-1 ⁵
550.860 Res Ethics	1	Internet	550.865.81 PH Prsp Rs	2	Internet	180.651 Ener Polic PH	2	M 1 ⁵ -3 ⁵	188.682 Build Land Transprtn & PH	2	F 1 ⁵ -3 ⁵ S(x3) 2-3
180.611 Glob Env Hlth	4	TR 8 ⁵ -10 ⁵	140.612 Biostat Reas II	3	TR 10 ⁵ -12	180.655 Balt: Urban Food Sys	4	WF 10-12	182.638 E&H Conc in Water Use/Reuse	4	WF 8 ⁵ -10 ⁵
			188.688 Global Sustain Seminar	1	W 12-1 ⁵	180.880 SS EH Outreach	2	T 4-6	180.880 SS EH Outreach	1-3	TBA
			180.620.81 Food Prod PH & Env	4	Internet	180.629 E/O Hlth Law Pol	4	MW 3 ⁵ -5 ⁵			
	17			20			16			13 = 66 Units	

EHS/SPH Required 39
Track Required 27
Elective Example