

MASTER OF ARTS IN PUBLIC HEALTH BIOLOGY, MA

Program Overview

The Master of Arts in Public Health Biology (<https://publichealth.jhu.edu/academics/maphb/>) (MAPHB) degree is a fully online, part-time degree program focused on biological tenets and research methods that are relevant to current issues in science and public health. It is an interdepartmental program involving Biochemistry and Molecular Biology, Environmental Health and Engineering, and Molecular Microbiology and Immunology, with required coursework provided through each. The program is designed to provide a solid conceptual basis for an understanding of the rationale, tools, and approaches that are essential for addressing the biological basis of the problems in public health.

Summary of Graduation Requirements

- A minimum of 48.5 credit hours to fulfill the degree
- Students are required to complete a thesis research course
- Students must take one course from BMB, EHE, and MMI as detailed in the MAPHB Curriculum section
- All students must maintain minimum academic standards and have satisfactory grades as detailed in the Academic Standards section

Course location and modality is found on the BSPH website (<https://publichealth.jhu.edu/courses/>).

MAPHB Curriculum

| 1. Code | Title | Credits |
|-------------------------|---|------------------|
| Required Courses | | |
| | Introduction to Online Learning (must be completed prior to beginning program) | 0 |
| PH.550.630 | Public Health Biology (or PH.550.631) | 3 |
| PH.550.631 | Biological Basis of Public Health (or PH.550.630) | 3 |
| PH.550.855 | MA Public Health Biology Thesis | 5 - 6 |
| PH.552.601 | Foundational Principles of Public Health | 0.5 |
| PH.552.602 | The Role of Quantitative Methods in Public Health | 0.5 |
| PH.552.603 | The Role of Qualitative Methods and Science in Describing and Assessing a Population's Health | 0.5 |
| PH.552.604 | Causes and Trends in Morbidity and Mortality | 0.5 |
| PH.552.605 | The Science of Primary Secondary and Tertiary Prevention in Population Health | 0.5 |
| PH.552.606 | The Critical Importance of Evidence in Advancing Public Health Knowledge | 0.5 |
| PH.552.607 | Essentials of Environmental Health | 0.5 |
| PH.552.609 | Psychological and Behavioral Factors That Affect A Population's Health | 0.5 |
| PH.552.610 | The Social Determinants of Health | 0.5 |
| PH.552.611 | Globalization and Population Health | 0.5 |
| PH.552.612 | Essentials of One Health | 0.5 |
| Total Credits | | 16.5-17.5 |

| Code | Title | Credits |
|------------------------------------|--|-----------|
| Optional Foundation Courses | | |
| PH.140.611 | Statistical Reasoning in Public Health I | 3 |
| PH.140.612 | Statistical Reasoning in Public Health II | 3 |
| PH.340.721 | Epidemiologic Inference in Public Health I | 5 |
| Total Credits | | 11 |

| Code | Title | Credits |
|---|------------------------------------|---------|
| Required Course, Environmental Health Sciences | | |
| Choose at least one of the following: | | |
| PH.180.601 | Environmental Health | 5 |
| PH.180.609 | Principles of Environmental Health | 4 |
| PH.183.631 | Fundamentals of Human Physiology | 4 |
| PH.187.610 | Public Health Toxicology | 4 |
| PH.187.632 | Molecular Toxicology | 4 |

| Code | Title | Credits |
|--|--|---------|
| Required Course, Biochemistry and Molecular Biology | | |
| Choose at least one of the following: | | |
| PH.120.600 | Biochemistry I: Protein Structure and Enzyme Catalysis | 3 |
| PH.120.601 | Biochemistry II: Major Metabolic Pathways | 5 |
| PH.120.602 | Concepts of Molecular Biology | 4 |
| PH.120.613 | Nucleic Acid Chemistry | 3 |
| PH.120.625 | Introduction to Cancer Biology | 3 |

| Code | Title | Credits |
|---|--|---------|
| Required Course, Molecular Microbiology and Immunology | | |
| Choose at least one of the following: | | |
| PH.260.621 | Introduction to the Biomedical Sciences I (Must be taken with PH.260.622) | 2 |
| PH.260.622 | Introduction to the Biomedical Sciences II (Must be taken with PH.260.621) | 2 |
| PH.260.656 | Malariology | 4 |
| PH.260.701 | Anatomy of Scientific Error, Anatomy of Scientific Error - Meta-Science in Research Practice | 3 |
| PH.550.603 | Fundamentals of Immunology | 3 |

Academic Standards

Students must meet minimum academic standards to remain in the MAPHB Program. A student's failure to meet any of the criteria below is grounds for being placed on academic warning and/or being dismissed from the program.

In core courses, master's students must receive a C or higher. A student who earns a grade below that threshold in a course listed as a core requirement must, at the next opportunity, make a second attempt to complete the core course by repeating the same course. 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. To remain in good academic standing, master's students must maintain a minimum grade point average of 2.75. If a student's GPA falls below the requirement, the student will be placed on academic probation. School

policy states that a master's student cannot graduate with a GPA lower than 2.75.

While students could opt to take a term(s) off, students are required to complete the degree within 4 years of their original start date. Failure to complete the degree within 4 years of the original start day could result in a non-conferral of the degree.

Program Policies

For a full list of program policies, please visit the Department of Biochemistry and Molecular Biology's For Current Students (<https://publichealth.jhu.edu/departments/biochemistry-and-molecular-biology/info-for-current-students/>) page where students can find the link to the most recent MAPHB Student Handbook.

The goal of the MA in Public Health Biology program is to prepare students from diverse backgrounds to apply biological principles to public health issues, conceptualize research questions, interpret results and apply these skills in the context of human health. The specific educational objectives are as follows:

Objectives

Upon successful completion of the MA in Public Health Biology program, students will be able to:

- Describe the biological basis of public health
- Apply knowledge in biochemistry, molecular biology to current and future issues in public health
- Assess current and future issues in public health related to microbiology and immunology
- Reflect on current and future issues in public health
- Demonstrate examples of current research, policy, or practice in public health biology

According to the requirements of the Council on Education for Public Health (CEPH), all BSPH degree students must be grounded in foundational public health knowledge. Please view the list of specific CEPH requirements by degree type (<https://e-catalogue.jhu.edu/public-health/ceph-requirements/>).