

# HEALTH ECONOMICS AND OUTCOMES RESEARCH, MHS

## Program Overview

The Master of Health Science in Health Economics and Outcomes Research (<https://publichealth.jhu.edu/academics/mhs-in-health-economics-and-outcomes-research/>) (MHS in HEOR) is an academic and research program focused on economic evaluation and outcomes research methods for healthcare. This rigorous program develops data analytic and economic modeling skills, as employed in the health policy context. Health economics and outcomes research is an applied field of study that draws upon two disciplines: economic evaluation and outcomes research. Methods in this field are used to promote the efficient and equitable allocation of healthcare resources in public health.

The discipline of economic evaluation is grounded on seminal theories of health economics that relate the value of healthcare to individuals and society. Statistical and decision sciences further enable researchers to build upon these theories and model the value of healthcare technologies to individuals and society. Some examples of this research include the evaluation of the value of new pharmaceuticals to existing therapies, the value of vaccines to society, or the value of a public health campaign to provide safety.

The discipline of outcomes research is grounded on seminal theories of health services that relate the role of healthcare to improving the lives of individuals and society. These theories enable researchers to identify important clinical, patient, and provider outcomes; design measurement techniques to capture different outcomes; and incorporate outcomes measurement into health systems. Specific examples of this research include assessing the impact of new pharmaceuticals on patient outcomes, how to measure a new approach for healthcare delivery, or how to validate a new patient-reported outcomes instrument for a pediatric population.

Students enrolled in the program have the opportunity to take courses from multiple departments across the Bloomberg School, taught by faculty with expertise in a variety of disciplines, many of whom are true leaders in their respective fields. Through their coursework, experiences at seminars, and capstone projects, students are provided a multidisciplinary experience. Graduates of the program work in public health research, healthcare consulting, pharmaceutical, and insurance industries. Many go on to pursue doctoral study in health services research, health economics, or other areas of economics or public health, and some have entered the program with a medical degree or plan to pursue medical school, and these graduates have used the tools taught in the program to supplement their clinical research.

The MHS program can be completed both full-time (9 months on-site in Baltimore or online) or part-time (2 years online). The curriculum requires a minimum of 64 course credits and a mentored research experience (the Capstone project).

## Program Administration

Program Director: Jeromie Ballreich (<https://www.jhsph.edu/faculty/directory/profile/3522/jeromie-m-ballreich/>), PhD, MHS

Assistant Director: David Earle, MLA

Sr. Academic Coordinator: Mary Wisniewski

## Bachelor's/MHS Program

Johns Hopkins University, in conjunction with the Bloomberg School, offers a combined Bachelor's degree and Master of Health Science (MHS) in Health Economics and Outcomes Research degree. The combined degree programs have been tailored to prepare students for a career in economic evaluation and outcomes research methods for healthcare.

JHU undergraduate students have the unique opportunity to seek early admission to the MHS in Health Economics and Outcomes Research degree. The combined Bachelor's/MHS program is focused on economic evaluation and outcomes research methods for healthcare. Students in this program will receive co-advising from both schools to optimize their academic experience.

Successful applicants to the program will have taken an undergraduate course in economics or microeconomics.

## Bachelor's/MHS Application Requirements

Bachelor's/MHS degree applications should be submitted through SOPHAS Express by July 1st between the junior and senior years. Bachelor's/MHS students must be accepted before the start of their senior year. Please note that admitted Bachelor's/MHS students must complete their Bachelor's degree before formally matriculating in the Bloomberg School of Public Health.

For further information on the Bachelor's/MHS in Health Economics and Outcomes Research program, contact Assistant Director David Earle or visit our website (<https://publichealth.jhu.edu/academics/mhs-in-health-economics-and-outcomes-research/bachelors-mhs-in-health-economics-and-outcomes-research/>).

## MHS Program Requirements

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

### Program Core Curriculum

The MHS in HEOR requires the completion of at least 64 credits. In addition to the program requirements, electives are chosen in consultation with the program or academic adviser. All requirements, including elective courses, must be completed for a letter grade if the course is offered for a letter grade. Any exceptions must be approved by the program director prior to the start of the term.

Code	Title	Credits
<b>Summer Prerequisites</b>		
XXX.XXX	Introduction to Online Learning	
PH.550.860	Academic & Research Ethics at BSPH	
<b>Program Core</b>		
PH.140.621	Statistical Methods in Public Health I <sup>1</sup>	4
PH.140.622	Statistical Methods in Public Health II	4
PH.140.623	Statistical Methods in Public Health III	4
PH.300.651	Introduction to the U.S. Healthcare System	4
PH.309.712	Assessing Health Status and Patient Outcomes	3
PH.313.601	Economic Evaluation I	3
PH.313.602	Economic Evaluation II	3
PH.313.603	Economic Evaluation III	3
PH.318.603	Applied Microeconomics for Policymaking	3
PH.313.865	MHS Capstone in Health Economics	2

PH.340.721	Epidemiologic Inference in Public Health <sup>1</sup>	5
PH.552.601	Foundational Principles of Public Health <sup>1</sup>	0.5
PH.552.603	The Role of Qualitative Methods and Science in Describing and Assessing a Population's Health <sup>1</sup>	0.5
PH.552.607	Essentials of Environmental Health <sup>1</sup>	0.5
PH.552.608	Biologic, Genetic and Infectious Bases of Human Disease <sup>1</sup>	0.5
PH.552.609	Psychological and Behavioral Factors That Affect A Population's Health <sup>1</sup>	0.5
PH.552.610	The Social Determinants of Health <sup>1</sup>	0.5
PH.552.611	Globalization and Population Health <sup>1</sup>	0.5
PH.552.612	Essentials of One Health <sup>1</sup>	0.5
Choose 1 of:		
PH.309.616	Introduction to Methods for Health Services Research and Evaluation I	2
and		
PH.309.617	Introduction to Methods for Health Services Research and Evaluation II	2
OR		
PH.300.713	Research and Evaluation Methods for Health Policy	3
Choose 1 of:		
PH.313.641	Introduction to Health Economics	3
OR		
PH.312.693	Introduction to Comparative Effectiveness and Outcomes Research	3

- Apply statistical methods including statistical inferences and regression methods to solve economic and public health problems.
- Measure and calculate health outcomes; differentiate between methods of theoretical economic evaluation and applications of economic evaluation.
- Evaluate and apply methods in health economics and economic evaluation in public health research.
- Apply economic theory and mathematical microeconomic modeling within the field of health economics.
- Apply economic methods for policy and decision-making.
- Assess the analytical methods in public health, including cost-effectiveness analysis, in the fields of health services research and health policy.

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/>).

<sup>1</sup> Course meets one or more CEPH learning objectives (<https://e-catalogue.jhu.edu/public-health/ceph-requirements/>).

## Electives

In order to meet the graduation requirement, students are required to take elective coursework. With so many elective options available, all students should meet with their program advisor prior to registering to determine the right options to meet their program goals.

## Capstone Project

Students will complete a mentored capstone (scholarly article) as the culminating requirement for the program. To facilitate this, each student will enroll for the MHS Capstone in the 4th term. The capstone is an economic analysis of a topic with health policy implications. The capstone project is completed under the guidance of a BSPH faculty member. All students are required to submit a written product and give an oral presentation of their capstone work in the 4th term.

## MHS Program Policies

Please view the HPM Departmental Policies (<https://e-catalogue.jhu.edu/public-health/departments/health-policy-management/#departmentalpoliciestext>) for details on achieving satisfactory academic progress in the program and course waivers.

## MHS Learning Outcomes

The learning outcomes for the MHS in HEOR are met through required and elective coursework and a mentored research capstone. Upon successful completion of the program, students will be able to: