Population Health, PhD

This program seeks to train students to become public health researchers and leaders through simultaneous examination of multiple determinations of health, including social, environmental, nutritional, and behavioral risk factors. Our students investigate the underlying causes of adverse health, including disease, disparities, and disability, through training in core population health disciplines—biostatistics, epidemiology, and health services—together with individual-specific and specialized training in topics related to student research. Importantly, our students are mentored by Northeastern's distinguished faculty, who individually and together conduct innovative, solution-focused research in critical population health topics.

Our population health doctoral students have an opportunity to learn to conduct research that addresses five key health determinants:

1. Social and community contexts
2. Environment and neighborhoods
3. Health and healthcare delivery
4. Education
5. Economic stability

Our diverse faculty has expertise in numerous population health disciplines, including health services research, health disparities, environmental and social epidemiology, biostatistics, exercise science, medical sociology, public policy, personal health technologies, and mental health. Students have the opportunity to work side by side with faculty in conducting cutting-edge, transdisciplinary research in these fields.

Course Requirements

All population health PhD candidates must earn at least 33 semester hours by completing core research courses, selecting a concentration and taking courses for that concentration, and taking additional electives and directed study courses as needed and in consultation with their faculty advisors. They must complete a dissertation in order to earn their degree. Eight core courses (22–23 semester hours) must be taken by all students, in addition to a mandatory, non-credit-bearing seminar speaker series. All students must fulfill the requirements of their specific population health option: social and environmental determinants of health or health services and policy. There may be some flexibility in course selection based on a student's relevant experience and dissertation topic. Students must consult with their advisor before selecting elective courses (9–10 semester hours). Electives should be used to either help the student develop skills needed for research or to help the student develop new research ideas.

ADVANCED ENTRY

This program is strictly for students who already have a master's degree in public health or a closely related area and have full-time employment at a company or agency who has entered into an agreement with Northeastern to be the student's sponsor. Completion of the PhD program requires 21–23 semester hours, including a yearlong research methods seminar and other advanced research courses. All students must fulfill the course requirements of their specific population health option: social and environmental determinants of health (9 semester hours) or health services and policy (7 semester hours). There may be some flexibility in course selection based on a student's relevant experience and dissertation topic. Students must consult with their advisor before selecting elective courses. Electives can be used to either help the student develop skills needed for research or to help the student develop new research ideas but are not required.

Please visit Bouvé College Learning Outcomes for the specific student learning outcomes for this program.

Students who do not qualify for the doctoral degree, but who have completed required coursework with a cumulative GPA of 3.000 or better, may be eligible to receive a terminal MS Population Health *(*https://catalog.northeastern.edu/graduate/health-sciences/community-health-behavioral-sciences/population-health-ms/*) degree. Note that no students will be admitted directly into the Population Health program to pursue a master's degree.*

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Qualifying examination
Annual review
Dissertation committee
Dissertation proposal
Oral defense of dissertation proposal
Candidacy status
Dissertation defense

Core Requirements

Code	Title	Hours
Health Services		
PHTH 5232	Evaluating Healthcare Quality	3
or PHTH 5234	Economic Perspectives on Health Policy	
Population Health		
PHTH 6400	Principles of Population Health 1	3
PHTH 6410	Principles of Population Health 2	3
Epidemiology		
PHTH 5202	Introduction to Epidemiology	3
PHTH 6202	Intermediate Epidemiology	3
Research Ethics		
BIOL 6381	Ethics in Biological Research	2
or PHSC 5212	Research Skills and Ethics	
Research and Analysis		
PHTH 5210	Biostatistics in Public Health	3
PHTH 6210	Applied Regression Analysis	3

Options

Complete one of the following options:

SOCIAL AND ENVIRONMENTAL DETERMINANTS OF HEALTH OPTION

Code	Title	Hours
PHTH 6224	Social Epidemiology	3
PHTH 6440	Advanced Methods in Biostatistics	3
PHTH 6800	Causal Inference in Public Health Research	3
Electives		2-4

HEALTH SERVICES AND POLICY OPTION

Code	Title	Hours
ECON 5110	Microeconomic Theory	4
PHTH 5234	Economic Perspectives on Health Policy	3
Electives		3-4

Electives

Code	Title	Hours
CS 6220	Data Mining Techniques	
CS 7280	Special Topics in Database Management	
ECON 5110	Microeconomic Theory	
ECON 5140	Applied Econometrics	
ECON 7200	Topics in Applied Economics	
EXSC 5200	Cardiopulmonary Physiology	
EXSC 5220	Advanced Exercise Physiology	
EXSC 5230	Physical Activity and Exercise: Effects on Musculoskeletal Health and Disease	
HINF 5200	Theoretical Foundations in Personal Health Informatics	
HRMG 6220	Health Organization Management	
PHSC 6216	Human Physiology and Pathophysiology	
PHTH 5212	Public Health Administration and Policy	
PHTH 5214	Environmental Health	
PHTH 5226	Strategic Management and Leadership in Healthcare	
PHTH 5230	Global Health	
PHTH 5540	Health Education and Program Planning	
PHTH 6200	Principles and History of Urban Health	
PHTH 6204	Society, Behavior, and Health	
PHTH 6208	Urban Community Health Assessment	

PHTH 6320	Qualitative Methods in Health and Illness
SOCL 7287	Social Movements in Health
STRT 6220	Strategic Management for Healthcare Organizations

Dissertation

Code	Title	Hours
PHTH 9990	Dissertation Term 1	
PHTH 9991	Dissertation Term 2	

Program Credit/GPA Requirements

33 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Qualifying examination
Annual review
Dissertation committee
Dissertation proposal
Oral defense of dissertation proposal
Candidacy Status
Dissertation defense

Core Requirements

A grade of B or higher is required in all coursework. Students must complete all core requirements unless otherwise indicated:

Code	Title	Hours
Population Health		
PHTH 6400	Principles of Population Health 1	3
PHTH 6410	Principles of Population Health 2	3
Epidemiology		
PHTH 6202	Intermediate Epidemiology	3
Research Ethics		
BIOL 6381	Ethics in Biological Research	2
or PHSC 5212	Research Skills and Ethics	
Research and Analysis		
PHTH 6210	Applied Regression Analysis	3

Options

Complete one of the following options:

- Social and Environmental Determinants of Health Option
- Health Services and Policy Option

SOCIAL AND ENVIRONMENTAL DETERMINANTS OF HEALTH OPTION

Code	Title	Hours
PHTH 6224	Social Epidemiology	3
PHTH 6440	Advanced Methods in Biostatistics	3
PHTH 6800	Causal Inference in Public Health Research	3

HEALTH SERVICES AND POLICY OPTION

Code	Title	Hours
ECON 5110	Microeconomic Theory	4
PHTH 5234	Economic Perspectives on Health Policy	3

Electives

Students may elect to take additional course credits to support their dissertation work.

Code	Title	Hours
CS 6220	Data Mining Techniques	
CS 7280	Special Topics in Database Management	
ECON 5140	Applied Econometrics	
EXSC 5200	Cardiopulmonary Physiology	
EXSC 5220	Advanced Exercise Physiology	
EXSC 5230	Physical Activity and Exercise: Effects on Musculoskeletal Health and Disease	
HINF 5200	Theoretical Foundations in Personal Health Informatics	
HRMG 6220	Health Organization Management	
PHSC 6216	Human Physiology and Pathophysiology	
PHTH 5212	Public Health Administration and Policy	
PHTH 5214	Environmental Health	
PHTH 5226	Strategic Management and Leadership in Healthcare	
PHTH 5230	Global Health	
PHTH 5540	Health Education and Program Planning	
PHTH 6200	Principles and History of Urban Health	
PHTH 6204	Society, Behavior, and Health	
PHTH 6208	Urban Community Health Assessment	
PHTH 6320	Qualitative Methods in Health and Illness	
SOCL 7287	Social Movements in Health	
STRT 6220	Strategic Management for Healthcare Organizations	

Dissertation

Code	Title	Hours
PHTH 9990	Dissertation Term 1	
PHTH 9991	Dissertation Term 2	

Program Credit/GPA Requirements

Minimum 21 total semester hours required
Minimum 3.000 GPA required