

Population Health

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The Department of Population Health was launched in 2025 to focus on innovative research, education, and service aimed at improving the health and well-being of populations locally, nationally, and internationally.

We examine the burden and distribution of diseases and implement macro- and micro-level solutions to address health disparities. To do so, we conduct research to measure and examine the health of populations using quantitative, qualitative, and mixed methodologies in order to promote health and prevent disease. We investigate determinants of health to develop and evaluate interventions in collaboration with healthcare organizations, policymakers, communities, and other partners. The departmental expertise currently includes chronic disease prevention, commercial determinants of health, disability, environmental health and environmental justice, epidemiology, ethics, health services, health policy and politics, immigrant health, maternal and child health, mental health, sexual and reproductive health, sleep, and wearable health technology.

We educate future leaders in population health through interdisciplinary academic programming. The Department of Population Health offers a Bachelor of Science in Population Health (<https://www2.lehigh.edu/academics/majors/population-health/>), jointly leads the Integrated Business and Health (<https://www2.lehigh.edu/academics/majors/integrated-business-and-health/>) program, and houses minors in Environmental Health (<https://health.lehigh.edu/Academics%20%26%20Programs/Undergraduate%20Programs/>), Epidemiology (<https://www2.lehigh.edu/academics/majors/epidemiology/>), Health Policy and Politics (<https://www2.lehigh.edu/academics/majors/health-policy-and-politics/>), Maternal and Child Health (<https://www2.lehigh.edu/academics/majors/maternal-and-child-health/>), and Population

Health (<https://health.lehigh.edu/Academics%20%26%20Programs/Undergraduate%20Programs/>). The Department of Population Health contributes courses to all the majors and graduate programs in the College of Health.

Our students are well-positioned to pursue careers in medicine and allied health professions, public health, epidemiology, health law, healthcare management, health policy, environmental policy, and in national or international health and development organizations.

Major & Minor PROGRAMS

Population Health	BS Degree, Major
Integrated Business & Health	BS Degree, Major
Epidemiology	Minor
Environmental Health	Minor
Health Policy & Politics	Minor
Maternal & Child Health	Minor
Population Health	Minor

B.S. POPULATION HEALTH

The major in Population Health prepares students to investigate the determinants of health with an emphasis on mixed and quantitative methodologies. Students learn to examine the burden and distribution of diseases, and to identify novel and effective avenues for disease prevention and health promotion. Our interdisciplinary major inspires students to engage beyond the academic setting to learn how to develop and evaluate interventions in collaboration with healthcare organizations, policymakers, communities, and other partners. Students gain knowledge and skills through coursework, experiential learning opportunities, research projects, and engagement with traditional and non-traditional partners in pursuit of a healthier world. The major provides students with a strong conceptual background in Population Health as well as extensive methodological expertise in data science and epidemiology. This degree is especially suitable for students interested to pursue careers in medicine and allied health professions, public health, epidemiology, health law, healthcare management, health policy, and in national or international health and development organizations. The B.S. requires a minimum of 120 credits.

Students earning this degree will obtain the following learning outcomes:

- Explain current and emerging issues and knowledge gaps in population health.
- Critically evaluate, research, and plan interventions to address population health issues.
- Apply theoretical frameworks that elucidate the multilevel determinants of population health through an interdisciplinary and equity-focused lens.
- Assess approaches to improve population health and achieve health equity.
- Analyze the ethical complexities of health research and health decision-making.

The BS in Population Health requires a minimum of 120 credits. Students gain a strong conceptual background in Population Health as well as extensive methodological expertise in data science and epidemiology.

Core Requirement

POPH 001	Introduction to Population and Public Health	4
POPH 002	Population Health Research Methods & Application	4
POPH 104	Careers in Population Health	3
EPI 304	Methods in Epidemiology I	3
EPI 305	Intermediate Epidemiology	3

Data Science Requirement ¹

BSTA 001 & BSTA 002	Population Health Data Science I and Population Health Data Science I Algorithms Lab	4
BSTA 101 & BSTA 103	Population Health Data Science II and Population Health Data Science II Algorithms Lab	4
Two upper-level methods courses chosen in consultation with adviser.		6-8
Determinants of Health (choose 2)		8
CGH 103	Biological & Environmental Determinants of Health	
CGH 104	Sociocultural & Political Determinants of Health	
CGH 105	Commercial Determinants of Health	
Capstone Project		6-8
POPH 301	Population Health Capstone (Proposal)	
or POPH 305	Honors Population Health Capstone (Proposal)	
POPH 302	Population Health Capstone (Execution)	
or POPH 306	Honors Population Health Capstone (Execution)	
Electives		15-20
5 electives chosen in consultation with an adviser. ²		
Total Credits		60-69

1

MATH 051 Survey of Calculus I or equivalent recommended

2

College of Health course prefixes include: BSTA (Biostatistics), CGH (Community and Global Health), EPI (Epidemiology), HIT (Health, Innovation and Technology), POPH (Population Health), and PUBH (Public Health)*

*PUBH courses are graduate-level and require special permission.

B.S. INTEGRATED BUSINESS & HEALTH

Click here (<https://catalog.lehigh.edu/courses/programsandcurricula/interdisciplinaryundergraduatestudy/integbusihealth/#text>) for additional information.

The BS in Business and Health trains students to apply knowledge about the social determinants of health, and the ability to work with communities, to develop and implement solutions in the health industry. This interdisciplinary program provides students with knowledge and skills from the core curriculum in business and health economics offered by the College of Business and training in health policy and community health from the College of Health.

The program follows a cohort-based structure, which ensures that students progress through the curriculum together as a group. Consequently, transferring into the program from other programs at Lehigh or external institutions is not allowed. Students must indicate their intention to enroll in the IC program when they apply for admission to Lehigh.

Distribution Requirements¹

WRT 001	Academic and Analytical Writing	3
POPH 319	Population Health Bioethics	3
Diversity, Equity & Inclusion ²		3
Sustainability ²		3

Business Core

ECO 001	Principles of Economics	4
BUS 003	Business Communication I	1.5
MATH 081	Calculus with Business Applications I	4
or MATH 021	Calculus I	
BUAN 044	Business Analytics I	1.5
MGT 043	Organizational Behavior	3
ACCT 151	Introduction to Financial Accounting	3

ACCT 152	Introduction to Managerial Accounting	3
BSTA 101 & BSTA 102	Population Health Data Science I and Population Health Data Science I Algorithms Lab	4
or ECO 045	Statistical Methods	
BIS 111	Introduction to Information Systems	3
ECO 146	Intermediate Microeconomic Analysis	3
FIN 125	Introduction to Finance	3
MKT 111	Principles of Marketing	3
SCM 186	Supply Chain Operations Management	3
BUS 203	Business Communication II	1.5
LAW 201	Legal Environment of Business	3
BUAN 244	Business Analytics II	1.5
MGT 243	Leadership in Organizations	3
MGT 301	Strategic Management in a Global Environment Capstone	3

Foundational Courses

POPH 001	Introduction to Population and Public Health	4
POPH 002	Population Health Research Methods & Application	4
BUHE 001	Integrated Seminar	3

Methods Courses

BSTA 103 & BSTA 104	Population Health Data Science II and Population Health Data Science II Algorithms Lab	4
or ECO 157	Statistical Methods II	
EPI 104	Fundamentals of Epidemiology	3
ECO 357	Econometrics	3
or EPI 305	Intermediate Epidemiology	

Health Policy & Politics Core

CGH 004	Introduction to Global Health	3
CGH 104	Sociocultural & Political Determinants of Health	4
CGH 105	Commercial Determinants of Health	4
CGH 313	Health Policy and Politics	3
One Health Policy Elective at the 300-level ³		3

Health Care Business & Economics Core

MGT 233	Managing the Health Care Workforce	3
SCM 240	Health Care Operations Management	3
ECO 368	Health Economics	3
ECO 369	Analysis of Health Care Markets	3

Integrated Capstone

BUHE 301	Integrated Capstone	3
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Free Electives⁴

Total Credits⁵	122-24
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1

Distribution courses should be chosen in consultation with the advisor. Courses taken within the major department to satisfy a major may not satisfy distribution requirements in more than one area. The student (with the advisor's assistance) is responsible for seeing that courses used in the major are not used to complete the distribution requirements in more than one area. If a distribution requirement is applied to the major requirement, students may take any additional course(s) as long as 122 - 124 total credits are completed.

2

Courses that meet the Diversity, Equity and Inclusion and Sustainability requirements are labeled with the attributes DEIN and SUST. Additional information on courses that meet these requirements is also available by contacting the College of Health advising office at cohadvicing@lehigh.edu (cohadvicing@lehigh.edu).

3

Chosen in consultation with an advisor.

4

Electives must be taken outside of the College of Business and the College of Health.

5

Total credits may vary depending on the student's course selection for the following requirements: BSTA 101 Population Health Data Science I & BSTA 102 Population Health Data Science I Algorithms Lab (4 credits total) or ECO 045 Statistical Methods (3 credits), and BSTA 103 Population Health Data Science II & BSTA 104 Population Health Data Science II Algorithms Lab (4 credits total) or ECO 157 Statistical Methods II (3 credits).

MINOR PROGRAMS

Minor programs in the College of Health are open to students from across the university. Students who have completed courses in their major that are also required for a minor may only count one course for both. For more information, contact the College of Health at cohadvicing@lehigh.edu. To declare any minor offered by the College of Health, complete this form (<https://powerforms.docuform.com/329016c8-371a-40cf-9ed9-f08c3197cc71/?env=na3&acct=4522e8bc-42ec-46ec-af83-a167d8a26e3f&accountId=4522e8bc-42ec-46ec-af83-a167d8a26e3f&recipientLang=en>).

Minor in Epidemiology

The minor in epidemiology provides students with conceptual knowledge and hands-on skills necessary to measure human health among populations. Students can use this knowledge in their daily lives and in practical application to their major field of study. These skills are essential to health-related fields, including community and population health, and medicine, and are increasingly attractive in the fields of business, engineering, biological or social sciences, especially as populations prepare for and mitigate emerging chronic and infectious diseases.

Core courses

EPI 104	Fundamentals of Epidemiology ¹	3
EPI 305	Intermediate Epidemiology ²	3

Choose 3 electives at the 300 level from the list below:

EPI 306	Lifecourse Epidemiology	
EPI 308	Spatial Epidemiology	
EPI 309	Chronic Disease Epidemiology	
EPI 310	Environmental Epidemiology & Exposure Science	
EPI 311	Psychiatric Epidemiology and Global Mental Health	
BSTA 309	Outbreak Science & Public Health Forecasting I	

Or another in consultation with adviser

Total credits 15-18

1 & 2

Students who have taken EPI 104 and EPI 305 for their major can only count **one** of these courses toward the EPI minor; for the other, they would need to replace it with another comparable course (selected in consultation with an adviser) that is at least 3 credits.

minor in ENVIRONMENTAL health

The Environmental Health minor equips students with theoretical understanding and practical skills necessary to identify, assess, and mitigate environmental health risks. This knowledge, deeply rooted in the interplay between the built and natural environment and its impact on human health, can be applied not only in students' daily lives but also as a practical extension to their major field of study. These competencies are important in health-related fields, particularly in community and population health, and are increasingly crucial as societies navigate the challenges posed by climate change.

This minor caters to (i) students from environmental sciences, engineering, and social or bench sciences who aim to influence population health through public health methodologies, (ii) students interested in positions such as environmental health specialist, food safety specialist, or community health workers in either public or private sectors, and (iii) students wishing to pursue graduate studies in public or population health that have an environmental health focus. This minor program bridges academic pursuits with practical applications, thereby fostering a comprehensive understanding of environmental health.

Core Cores

CGH 103	Biological & Environmental Determinants of Health	4
POPH 003	Justice, Equity, and Ethics in Population Health	3
POPH 106	Global Environment and Human Welfare	3

Choose 1 Core elective at the 300-level: ¹ 3

CGH 316	Global Environmental Disasters & Policy	
EPI 308	Spatial Epidemiology	
EPI 310	Environmental Epidemiology & Exposure Science	

Choose 1 Methods elective at the 300-level: ¹ 3

BSTA 308	Advanced R Programming	
BSTA 309	Outbreak Science & Public Health Forecasting I	
CGH 306	Mixed Methods in Health Research	

Total credits: 16

1

Core and Methods elective courses have pre-requisite requirements. An additional 10-15 credits of pre-requisite coursework may be required to complete this minor.

minor in Health Policy & Politics

The minor in health policy & politics is intended for students interested in receiving more advanced training and experiences in healthcare policy-making processes and the political factors that influence this process. Courses introduce the theoretical and empirical approaches to understanding the different phases of the policy-making process; the important roles that politicians, bureaucrats, and civil society play in the design and implementation of policy; as well as the role of the international community, such as the World Health Organization (WHO).

CGH 004	Introduction to Global Health	3
CGH 313	Health Policy and Politics	3

Determinant Class (choose one) 3-4

CGH 104	Sociocultural & Political Determinants of Health	
CGH 105	Commercial Determinants of Health	

Field or Research Experience ¹ 3-4

Two electives in consultation with adviser. One elective must be at the 300-level. 6-8

Total Credits 18-22

1

Approved Field or Research Experience courses include POPH 120 Independent Study or Research in Population Health, POPH 130 Internship in Population Health, POPH 320 Independent Study or Research in Population Health, POPH 330 Internship in Population Health, CGH 120 Independent Study or Research in Community and Global Health, CGH 130 Internship in Community and Global Health, CGH 320 Independent Study or Research in Community and Global Health, CGH 330 Internship in Community and Global Health, CINQ 387 Creative Inquiry Projects, CINQ 389 Inquiry to Impact Group Projects or other credit or non-credit experience chosen in consultation with the adviser. In the event that a student pursues a non-credit bearing field experience, the student will be required to fulfill the credit requirements for the minor by choosing an additional elective.

Minor in maternal & child health

The maternal and child Health minor provides students with a deeper understanding of the lifecourse approach as well as the multiple determinants that shape the health and wellbeing of women, children, and families across the life course and intergenerational. Students apply these foundational concepts to evaluate maternal and child health research, programs, and policies in the US and globally.

POPH 001	Introduction to Population and Public Health	3
or CGH 001	Community Health	
POPH 105	Introduction to Maternal and Child Health	3
EPI 306	Lifecourse Epidemiology	3
or CGH 332	Aging, Health, and Social Policy	
Electives (two courses chosen in consultation with the advisor)		6-8
Total Credits		15-17

minor in population health

The **Population Health Minor** provides students with an understanding of core population health concepts and methodologies to investigate the determinants of health, the burden and distribution of diseases, and to identify novel and effective avenues for disease prevention and health promotion. The minor in population health is for students **not** majoring in population health.

POPH 001	Introduction to Population and Public Health	4
POPH 002	Population Health Research Methods & Application	4
BSTA 101 & BSTA 102	Population Health Data Science I and Population Health Data Science I Algorithms Lab	4
EPI 104	Fundamentals of Epidemiology	3
Elective chosen in consultation with the adviser		3-4
Total Credits		18-19

Epidemiology Courses

EPI 104 Fundamentals of Epidemiology 3 Credits

Introduces epidemiology and its application in public health. Addresses basic epidemiologic terminology and definitions. Presents public health problems in terms of magnitude, person, time, place, and disease frequency. Examines correlation measures between risk factors and disease outcomes; strengths and weaknesses of standard epidemiologic study designs; and ethical and legal issues related to epidemiologic data. Students calculate basic epidemiology measures, draw inferences from epidemiologic reports, and use information technology to access, evaluate, and interpret public health data.

Prerequisites: POPH 002

EPI 120 (BSTA 120, CGH 120, POPH 120) Independent Study or Research 1-4 Credits

This course can be directed readings or research in Epidemiology or an experiential learning experience that puts students' understanding of Epidemiology into practice. Department permission is required.

Repeat Status: Course may be repeated.

EPI 130 Internship 1-4 Credits

In this introductory course, students will engage in supervised work in Epidemiology. Placements will be arranged to suit individual interests and career goals. Potential internship sites include government agencies, non-profit organizations, and the private sector. A written report is required, and a preceptor evaluation will be required.

Department permission is required.

Repeat Status: Course may be repeated.

EPI 150 Special Topics in Epidemiology 3-4 Credits

In this course, students will engage in an intensive exploration of a topic of special interest that is not covered in other courses. Topics addressed will be at an intermediate level.

Repeat Status: Course may be repeated.

EPI 160 Epidemiology Study Abroad 1-4 Credits

Epidemiology focused course taken during an abroad experience.

Repeat Status: Course may be repeated.

EPI 300 Apprentice Teaching 1-4 Credits

Instructor permission required.

Repeat Status: Course may be repeated.

EPI 305 Intermediate Epidemiology 3 Credits

This course offers a deeper, expanded view of concepts and methods for observational epidemiological studies. Experiential learning activities and data collection give students opportunities to apply concepts learned in EPI 104. Topics include environmental, molecular, and genetic epidemiology, descriptive methods, analytic study designs (ecologic, cross-sectional, cohort, and case-control studies), confounding, and effect modification. Includes the use of multivariable models to adjust for confounding effects. Deeper concepts in causal inference are examined through the use of directed acyclic graphs.

Prerequisites: EPI 104

EPI 306 Lifecourse Epidemiology 3 Credits

This course provides students a foundation for understanding the terminology and theoretical framework used in life course epidemiology and family health services research; biobehavioral pathways by which early life experiences impact health across the life course; data sources, study designs, and statistical approaches used in lifecourse epidemiology and family health services research; and implications for clinical and public health practice, policy, and health system development with an eye towards development of effective and sustainable life course interventions.

Prerequisites: (POPH 001 or CGH 001) and POPH 105

EPI 308 Spatial Epidemiology 3 Credits

This course will provide students with an introduction to Geographic Information Systems (GIS) and its application in population health. It is primarily intended for students in Population Health, but students from other programs will also get good exposure to the capabilities of GIS in health science. The course is designed to teach a mix of practical skills and fundamental concepts. The first half focuses on basic skills and concepts, while the second half focuses on using GIS for analysis.

Prerequisites: EPI 304

EPI 309 Chronic Disease Epidemiology 3 Credits

This course explores the epidemiology of common chronic diseases, including cardiovascular, cancer, metabolic, musculoskeletal, neurologic and others. Major risk factors include tobacco use, diet and nutrition, physical inactivity, and alcohol use. For each chronic disease we will review the significance of the chronic disease by describing the health disparities across various demographic groups as well as discuss the major risk factors attributed to the disease. Finally, students will critique evidence-based interventions from the published literature.

Prerequisites: EPI 104

EPI 310 Environmental Epidemiology & Exposure Science 3 Credits

Environmental epidemiology examines the associations of diseases with occupational exposures and other environmental risk factors. Exposure science is the study of contact between humans and environmental risk factors, and it plays a fundamental role in the development and application of epidemiology, toxicology, and risk assessment. This course aims to engage students to understand the relationship between environmental exposure and human health, learn how to conduct exposure assessments, and know the application to promote and protect human health.

Prerequisites: EPI 304

EPI 311 Psychiatric Epidemiology and Global Mental Health 3 Credits

This course examines global mental health through the lens of psychiatric epidemiology and cultural psychiatry. It utilizes a life course framework to understand the bio-psycho-social determinants of mental health and global burden of mental disorders throughout the lifespan. Students will explore mental health and illness with an emphasis on culture, diversity, and social inclusion. Focus is placed on exploring diverse cultural conceptualizations and presentations of mental health and illness and implementing culturally appropriate prevention and intervention programs.

Prerequisites: EPI 104

EPI 320 (BSTA 320, CGH 320, POPH 320) Independent Study or Research 1-4 Credits

This course can be directed readings or research in Epidemiology or an experiential learning experience that puts students' understanding of Epidemiology into practice. Department permission is required.

Repeat Status: Course may be repeated.

EPI 330 Internship 1-4 Credits

In this advanced course, students will engage in supervised work in Epidemiology. Placements will be arranged to suit individual interests and career goals. Potential internship sites include government agencies, non-profit organizations, and the private sector. A written report is required, and a preceptor evaluation will be required. Department permission is required.

Repeat Status: Course may be repeated.

EPI 350 Special Topics in Epidemiology 3-4 Credits

In this course, students will explore the substantive and methodological concepts related to a specific Epidemiology content area. Examples may include Lifecourse Epidemiology, Molecular Epidemiology, and Infectious Disease Epidemiology.

Repeat Status: Course may be repeated.

EPI 360 Epidemiology Study Abroad 1-4 Credits

Upper-level epidemiology-focused course taken during an abroad experience.

Repeat Status: Course may be repeated.

EPI 404 Methods in Epidemiology I 3 Credits

This course addresses advanced epidemiologic terminology and definitions. Presents public health problems in terms of magnitude, person, time, place, and disease frequency. Examines and critiques correlation measures between risk factors and disease outcomes; strengths and weaknesses of standard epidemiologic study designs; and ethical and legal issues related to epidemiologic data. Students calculate basic epidemiology measures (rates, Odds Ratios, Relative Risks, and others), draw inferences from epidemiologic reports, and use information technology to access, evaluate, and interpret public health data.

EPI 405 Methods in Epidemiology II 3 Credits

This course investigates complicated questions in epidemiology providing a deeper, expanded view of concepts and methods for observational epidemiological studies. Through experiential learning and data collection, students apply concepts learned in EPI 404, analyze primary data, write epidemiological reports. Topics include confounding, effect modification, cohort studies, case-control study variants, analytical methods. Students use multivariable models to model relationships between risk factors and health outcomes while adjusting for confounding effects. Deeper concepts in causal inference examined through directed acyclic graph use.

Prerequisites: EPI 404

EPI 411 Psychiatric Epidemiology and Global Mental Health 3 Credits

This course examines global mental health through the lens of psychiatric epidemiology and cultural psychiatry. It utilizes a life course framework to understand the bio-psycho-social determinants of mental health and global burden of mental disorders throughout the lifespan. Students will explore mental health and illness with an emphasis on culture, diversity, and social inclusion. Focus is placed on exploring diverse cultural conceptualizations and presentations of mental health and illness and implementing culturally appropriate prevention and intervention programs.

EPI 450 Special Topics in Epidemiology 3 Credits

In this course, students will engage in an intensive exploration of the substantive and methodological concepts related to a specific Epidemiology content area. Examples may include Lifecourse Epidemiology, Molecular Epidemiology, and Infectious Disease Epidemiology.

Repeat Status: Course may be repeated.

Population Health Courses**POPH 001 Introduction to Population and Public Health 4 Credits**

Despite significant advances in medicine and public health, inequities in health persist. Understanding health on a population level is an approach that seeks to improve the health of the whole population, unravel variations in health outcomes, and to identify effective strategies for reducing or eliminating inequities. The purpose of this course is to provide students with an understanding of: 1) how population and public health are defined and measured; and 2) the determinants of population health.

POPH 002 Population Health Research Methods & Application 4 Credits

This course provides students with fundamental principles of research methods relevant to population health and the translation of research into practice. Through this course, we will review a range of study designs, including experimental and observational studies, mixed methods, and comparative qualitative case study methods. In addition, students will obtain the skills needed to translate research into practice for multiple stakeholder groups.

Prerequisites: POPH 001

POPH 003 Justice, Equity, and Ethics in Population Health 3 Credits

The goal is to examine the historical and emerging issues in population health ethics. The course will introduce both the historical contexts and contemporary issues in population health dilemmas. Topics of interest include: 1) resource distribution and social justice; 2) self-sufficiency and paternalism; 3) health promotion & disease prevention; 4) patients' right to privacy; 5) research integrity; and 6) newly emerging issues. Students will debate, research, and propose solutions and intervention strategies through group discussions, role play, and presentations.

Attribute/Distribution: HEBI

POPH 007 (BSTA 007) Frontiers of AI in Health 3 Credits

This course presents a broad contemporary survey of the actual and potential contributions of Artificial Intelligence and Health Data Science in addressing public health challenges. By reading recent articles that describe case studies of AI in health and healthcare and by engaging in discussions both in class and online, students will come to appreciate the many unsolved problems in public health and how one may evaluate the potential benefits and risks of exciting new data-centric solutions made possible by AI.

POPH 101 History of Population Health 3 Credits

This course introduces students to the development of population health as a convergent science. Students will learn about the evolution of population health interests, normative beliefs in service delivery, and policy at the international and domestic level. The principles, ethical values and services enforced by law will be learned. Students will explore the initiatives, collectively achieved among various sectors, addressing the determinants of health. We conclude by addressing future population health challenges, such as the environment, non-communicable diseases, and inequalities.

POPH 104 Careers in Population Health 3 Credits

In this interdisciplinary seminar, students will be exposed to individuals working in various disciplines with the field of population health in academic positions, government and non-governmental organizations, community-based organizations, medical establishments, industry, and more. Through the eyes of these professionals, students will learn of career opportunities in these growing fields of study and will begin to chart their own career paths.

POPH 105 Introduction to Maternal and Child Health 3 Credits

The course introduces the student to the Maternal and Child Health field. Students will examine the multi-dimensional determinants of maternal and child health issues using a Life Course approach. Students will also explore the roles of research, programs, policy, and advocacy in the reduction of maternal and child health disparities.

POPH 106 Global Environment and Human Welfare 3 Credits

This course investigates the present understanding of multiple pollution agents and their effects on human health and well-being. The students will examine the history, the emergence, the known risks from exposure to specific pollutants through multiple media (e.g. air, water, food) with a particular focus on air pollution. Through readings, discussions, and a project, students are expected to cultivate a critical understanding of the risks posed by environmental pollutants on human health and identify knowledge gaps.

Attribute/Distribution: SUST

POPH 107 Sleep and Physical Activity in Population Health 3 Credits

This course explores how physical activity (PA) and sleep impact population health. Students will evaluate the scientific literature on the role of PA and sleep in preventing chronic diseases, promoting mental health, and enhancing overall well-being. Through experiential research, students will also learn how to measure PA and sleep information. The course will examine how environmental, social, cultural, and policy-related factors influence PA and sleep behaviors in diverse populations.

Prerequisites: POPH 001

POPH 108 Representations of Disease & Disability in Popular Culture 3 Credits

This course critically assesses popular depictions of health, disease, and disability, asking how mass media and art affect our shared social imaginaries of these topics. Students will engage with source materials from film, television, novels, theater, and popular culture to ask how works of art shape the ways we think about disease and disability. We will question not only the accuracy of these popular depictions, but also their ethical significance, and the potential art holds to enact positive change.

Attribute/Distribution: DEIN

POPH 120 (BSTA 120, CGH 120, EPI 120) Independent Study or Research in Population Health 1-4 Credits

This course can be directed readings or research in Population Health or an experiential learning experience that puts students' understanding of Population Health into practice. Department permission required.

Repeat Status: Course may be repeated.

POPH 126 Population Health and the Media 3 Credits

This course explores the importance of the relationship that health organizations have with the media and the powerful role it can play in what a population deems important in public health. We will examine how mass media campaigns have been used to change behaviors: tobacco, alcohol and drug use; lowering risk factors for heart disease and diabetes; and even road safety to produce life-saving changes in large populations as well as to manage national and worldwide health crises.

POPH 130 Internship in Population Health 1-4 Credits

In this introductory course, students will engage in supervised work in Population Health. Potential internship sites include government agencies, non profit organizations and the private sector. A written report is required and preceptor evaluation will be required. Department permission required.

Repeat Status: Course may be repeated.

POPH 150 Special Topics in Population Health 3-4 Credits

In this course, students will engage in an intensive exploration of a topic of special interest that is not covered in other courses. Topics addressed will be at an intermediate level.

Repeat Status: Course may be repeated.

POPH 160 Population Health Study Abroad 1-4 Credits

Population health focused course taken during an abroad experience.

Repeat Status: Course may be repeated.

POPH 195 1-4 Credits

Repeat Status: Course may be repeated.

POPH 300 Apprentice Teaching 1-4 Credits

Instructor permission required.

Repeat Status: Course may be repeated.

POPH 301 Population Health Capstone (Proposal) 1-3 Credits

In this writing intensive course, students will work closely with their academic advisor and site preceptor to develop a detailed proposal for a Population Health project. Department permission required. Students must complete 3 credits of Capstone Proposal.

Repeat Status: Course may be repeated.

Attribute/Distribution: WRIT

POPH 302 Population Health Capstone (Execution) 1-3 Credits

In this course, students will implement and evaluate the Population Health project proposed in POPH 301. A final capstone report, oral presentation, and preceptor evaluation will be required. Department permission required. Students must complete 3 credits of Capstone Execution.

Repeat Status: Course may be repeated.

Prerequisites: POPH 301

Can be taken Concurrently: POPH 301

POPH 305 Honors Population Health Capstone (Proposal) 1-4 Credits

In this writing intensive course, students will work closely with their academic advisor and site preceptor to develop a detailed proposal for a Population Health project. This course includes a weekly honors seminar. To qualify for honors, students must have a 3.5 major GPA and department permission. A total of 4 credits is required to complete the Capstone Proposal.

Repeat Status: Course may be repeated.

POPH 306 Honors Population Health Capstone (Execution) 1-4 Credits

In this course, students will implement and evaluate the Population Health project proposed in POPH 305. A final capstone report, oral presentation, and preceptor evaluation will be required. This course includes a weekly honors seminar. To qualify for honors, students must have a 3.5 major GPA and department permission. A total of 4 credits is required to complete the Capstone Execution.

Repeat Status: Course may be repeated.

Prerequisites: POPH 305

Can be taken Concurrently: POPH 305

POPH 316 Global Sexual and Reproductive Health, Rights, and Justice 3 Credits

This course explores sexual reproductive health issues through the lens of reproductive justice, human rights, and gender equity. Using case studies from around the world, students analyze such topics as unmet family planning needs, contraception, abortion politics and access to care, cross-border reproductive travel, sexually transmitted infections and HIV prevention and care, evidence around inclusive vs. abstinence-based sexual education, adolescent health, LGBTQAI + health, refugees and populations in transit, declining birth rates, pronatalist policies, Assisted Reproductive Technologies, surrogacy, and egg freezing.

POPH 317 Urban Greenspace and Health 3 Credits

This class will investigate the myriad and complex ways in which urban greenspaces impact the health of human populations. This course will present biological/psychosocial theories and mechanisms as well as topical and methodological issues underlying relationships between greenspace and health. The class will also analyze contemporary urban greening interventions. Students will complete experiential learning activities to collect and analyze data describing health effects of urban greenspaces. Additional topics include chronic diseases, mental health, stress, climate change adaptation, urban heat islands.

Prerequisites: EPI 104

Attribute/Distribution: SUST

POPH 318 Advanced Technologies for Health 3 Credits

This course introduces different technologies related to healthcare, health education, and health promotion. We will explore how the technologies, including computer simulations, serious games, immersive environments (VR/AR), virtual agents, dashboards, eye tracking, emotion detection, and wearable sensors, can be used for health education and promotion. We also discuss the theoretical models and theories guiding the design/use of those technologies.

Prerequisites: POPH 001 or CGH 001

POPH 319 Population Health Bioethics 3 Credits

This course will focus on macro-level bioethical dilemmas that arise outside the clinic, at the level of the population, the state, the country, or the globe. Population health policies raise questions about autonomy, individual rights, coercion, justice, community, the meaning of the common good, norms of research, and multi-cultural values. The course will explore a range of questions, including: how to conceptualize, measure and evaluate health inequalities?; how should we set spending priorities?; is paternalism acceptable?

Prerequisites: POPH 001 or CGH 001

Attribute/Distribution: HEBI

POPH 320 (BSTA 320, CGH 320, EPI 320) Independent Study or Research in Population Health 1-4 Credits

This course can be directed readings or research in Population Health or experiential learning that puts the student's understanding of Population Health into practice. Department permission required.

Repeat Status: Course may be repeated.

POPH 330 Internship in Population Health 1-4 Credits

In this advanced course, students will engage in supervised work in Population Health. Potential internship sites include government agencies, non-profit organizations, and the private sector. A written report is required and preceptor evaluation will be required. Department permission required.

Repeat Status: Course may be repeated.

POPH 350 Special Topics in Population Health 3-4 Credits

In this course, students will engage in an intensive exploration of a topic of special interest that is not covered in other courses. Topics addressed will be at an advanced level.

Repeat Status: Course may be repeated.

POPH 360 Population Health Study Abroad 1-4 Credits

Upper-level population health focused course taken during an abroad experience.

Repeat Status: Course may be repeated.

POPH 401 Population Health Concepts and Methods 3 Credits

In this introductory graduate course, students will apply foundational concepts related to the definition and measurement of health and disease as well as the multiple determinants of population health (from cell to society). Students will then apply the fundamental principles of quantitative and qualitative research methodologies in order to integrate the multiple determinants of health in population health research and practice. This course will also explore the translation of research findings to programmatic intervention and policy development.

POPH 403 Biological Basis of Population Health: Concepts and Methods 3 Credits

In this graduate course, students will investigate the biological mechanisms underlying population health outcomes as well as the roles of individual and group susceptibility to disease. Students will also explore and apply the emerging and traditional tools used in genomic, molecular, immunological, and environmental fields. Students will then integrate the biological and societal determinants of health in order to propose programmatic and policy interventions that promote health and prevent disease.

POPH 405 Qualitative Research Methods 3 Credits

This is a graduate-level course designed to teach the basics of rigorous qualitative methodology. It is a practical course through which you will learn about and gain experience in study design and sampling methods; data collection through participation and observation, interviews, and focus groups; different traditions of data analysis; and presenting qualitative methods in academic writing, including for study design or grant writing and academic journal writing.

POPH 408 Population Health Survey Methods 3 Credits

In this graduate course, students will explore and apply the foundational concepts and methods related to questionnaire design, sampling, quantitative and qualitative data collection, and data preparation for analysis. Specifically, this course will expose students to the foundational concepts and skills related to measure development and validation. This course will also introduce students to mixed methods research.

Prerequisites: POPH 401 and (EPI 404 or EPI 304) and BSTA 402

POPH 409 Social Determinants of Health 3 Credits

This course will look at cultural and social institutions, as well as other components of culture, society, and social structure, that affect health and the health outcomes at the individual and community-levels. Topics to be analyzed include cultural traditions, social norms, politics, economics, housing, transportation, and subsistence strategies, just to name a few. Additionally, specific illnesses, sicknesses, and diseases linked to cultural and social institutions and the human experience will also be explored.

Prerequisites: POPH 401

POPH 410 Population Health Capstone/Thesis Project 3 Credits

In this writing-intensive course, students will work closely with their academic advisor to develop a detailed research proposal for a population health thesis project.

Prerequisites: POPH 401

POPH 411 Population Health Thesis II (execution) 3 Credits

In this course, students will work closely with their academic advisor and other relevant mentors to implement and evaluate the population health thesis project proposed in "Population Health Thesis I". A final thesis paper and oral presentation will be required.

Prerequisites: POPH 410

POPH 413 Foundations of Global Health 3 Credits

This graduate-level course provides an in-depth examination of the issue of global health. We begin with an analysis of the rise of the international community in addressing population health needs, and the international norms guiding healthcare delivery systems. We will also focus on healthcare delivery systems, technological and scientific innovations, and data science in response to healthcare needs in several developing nations. Finally, students will understand the political, social, and commercial determinants of population health in these countries.

POPH 414 Global Health Research or Field Experience 3 Credits

During this field experience, students will engage in supervised work in global health. Placements will be arranged to suit individual interests and career goals. Potential placements include government agencies, non-profit organizations, the private sector, and other academic institutions that are involved with global health work. A written report and preceptor evaluation will be required.

Repeat Status: Course may be repeated.

POPH 418 Advanced Technologies for Health 3 Credits

This course introduces different technologies related to healthcare, health education, and health promotion. We will explore how the technologies, including computer simulations, serious games, immersive environments (VR/AR), virtual agents, dashboards, eye tracking, emotion detection, and wearable sensors, can be used for health education and promotion. We also discuss the theoretical models and theories guiding the design/use of those technologies.

POPH 419 Population Health Bioethics 3 Credits

This course will focus on macro-level bioethical dilemmas that arise outside the clinic, at the level of the population, the state, the country, or the globe. Population health policies raise questions about autonomy, individual rights, coercion, justice, community, the meaning of the common good, norms of research, and multi-cultural values. The course will explore a range of questions, including: how to conceptualize, measure and evaluate health inequalities?; how should we set spending priorities?; is paternalism acceptable?

POPH 420 (BSTA 420, CGH 420, PUBH 420) Independent Study or Research in Population Health 1-4 Credits

This course can be directed readings or research in Population Health or experiential learning that puts the student's understanding of Population Health into practice. Department permission required.

Repeat Status: Course may be repeated.

POPH 430 Internship in Population Health 1-4 Credits

In this advanced course, graduate students will engage in supervised work in Population Health. Potential internship sites include government agencies, non-profit organizations, and the private sector. A written report is required and a preceptor evaluation will be required. Department permission required.

Repeat Status: Course may be repeated.

POPH 431 Environmental Health Justice 3 Credits

This course introduces key concepts and methods, such as exposure science, epidemiology, toxicology, biomarkers/omics, risk assessment, implementation science, and policy, in order to deepen the understanding of the relationship between major emerging environmental issues and human health. Specifically, the students will apply key tools to explain the relationship between global-, regional, and local-scale environmental contributors to human health outcomes.

POPH 450 Special Topics in Population Health 3 Credits

In this course, students will engage in an intensive exploration of a topic of special interest that is not covered in other courses. Topics addressed will be at an advanced level.

Repeat Status: Course may be repeated.

POPH 480 Seminar: Population Health Doctoral Roundtable 1 Credit

In this seminar, students will present their progress and receive peer mentoring on various stages of the research process (e.g. conference presentations, grant applications, manuscripts, dissertation proposal). This seminar will also provide career counseling resources, such as presentations on grant opportunities, the job search process, career networking, interview process, etc. All students will be required to enroll in this seminar until they advance to candidacy and present their dissertation proposal prior to the formal proposal defense with the doctoral committee.

Repeat Status: Course may be repeated.

Public Health Courses**PUBH 401 Health Promotion and Education 3 Credits**

In this course, students will gain a deeper insight into the key conceptual frameworks used in health behavior change, promotion, and education. Students will apply these concepts to specific health behaviors, including tobacco use, alcohol use, substance use, obesity and eating behaviors, physical activity, unintentional injury, workplace injury, violence, and risky sexual behaviors. Students will also explore cross-cutting topics such as behavioral economics, patient and consumer activation, patient communication, cultural competence, risk assessment, chronic conditions and depressive disorders.

PUBH 402 Health Services, Administration, Politics, and Policy 3 Credits

This course will provide students with an overview of how the U.S. healthcare system works. Students will learn the federal, state, and local administration of healthcare services, as well as the implementation process. We will also address the various phases of the health policy-making process, across several sectors. A comparative analysis of the differences between public versus private healthcare service provision will also be provided. We will conclude with comparisons between the US and other countries.

PUBH 403 Health Program Planning and Implementation 3 Credits

Program planning and implementation are essential skills for a public health professional. In this class, students will learn to perform various functions associated with program planning and implementation such as: assess and prioritize community needs; identify evidence-based best practices for choosing interventions; develop and practice writing SMART objectives and logic models; understand how to engage and communicate with stakeholders and community members; as well as how to organize a project budget, staffing plan and timeline.

Prerequisites: PUBH 401 and (EPI 404 or EPI 304)

PUBH 404 Seminar: Leadership and Health Practice 1 Credit

This seminar will introduce students to foundational leadership models and theories that can be applied in a wide range of population and public health practice settings. Students will also learn key leadership skills, including effective interpersonal communication, collaborative decision-making, negotiation, mediation, and team empowerment.

Prerequisites: PUBH 401

PUBH 405 Program Evaluation Methods 3 Credits

Evaluation is an essential public health function and is critically important in the development and maintenance of evidenced-based practice. This interactive, practical course introduces concepts, methodology, and skills used to evaluate health promotion programs. Students will learn how to develop evaluation plans, including process, impact and outcome evaluations. This class will focus on the knowledge and acquisition of skills through assessment, critical analysis, and critique of program evaluations conducted in a range of community health and public health settings.

Prerequisites: PUBH 403

PUBH 410 Applied Practice Experience 3 Credits

Students complete an applied practice experience (APE or "practicum") in a supervised setting consistent with their career goals. With guidance from their site preceptor, students create at least two work products or "deliverables" during their practicum. A final report and oral presentation are also required, and site preceptors evaluate the student's performance.

Prerequisites: PUBH 401

PUBH 411 Public Health Capstone 3 Credits

In consultation with a COH faculty member, students complete a public health capstone project (a.k.a., integrative learning experience (ILE)) that demonstrates synthesis of MPH foundational and concentration competencies. Students produce a high-quality written product (e.g., program evaluation report, training manual, policy statement, legislative testimony with accompanying supporting research, etc.) useful to external stakeholders.

Prerequisites: PUBH 410

PUBH 420 (BSTA 420, CGH 420, POPH 420) Independent Study or Research in Public Health 1-3 Credits

This course can be directed readings or research in Public Health or experiential learning that puts the student's understanding of Public Health into practice. Department permission required.

Repeat Status: Course may be repeated.

PUBH 430 Internship in Public Health 1-3 Credits

In this advanced course, graduate students will engage in supervised work in Public Health. Potential internship sites include government agencies, non-profit organizations, and the private sector. A written report is required and a preceptor evaluation will be required. Department permission required.

Repeat Status: Course may be repeated.

PUBH 450 Special Topics in Public Health 3 Credits

In this course, students will engage in an intensive exploration of a topic of special interest that is not covered in other courses. Topics addressed will be at an advanced level.

Repeat Status: Course may be repeated.