



2021-2022

STUDENT HANDBOOK

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Dear MPH Student:

We are delighted to welcome you to the Master of Public Health (MPH) degree program at Penn.

Penn's MPH Program was established in 2002 to promote University-wide synergy among academic disciplines to advance leadership in public health, with a primary focus on master's level professional education. The program is a true partnership across multiple schools of the University including the Perelman School of Medicine, School of Arts and Sciences, School of Dental Medicine, Graduate School of Education, School of Nursing, School of Social Policy and Practice, School of Veterinary Medicine, Wharton School of Business, and Penn's Center for Public Health Initiatives (CPHI). The Penn MPH program is accredited by the Council on Education for Public Health (CEPH).

Public health training at Penn occurs in a highly productive, supportive, team-oriented environment. The MPH program's pace is rapid, as advantage is taken of the trainees' maturity and experience. Training is designed to address the needs of each trainee, as it offers both structure and flexibility and the opportunity to pursue in depth interests already identified, as well as those that develop during training. This approach requires students to be mature, self-directed, and to have a clear vision of their goals in getting an MPH.

This program handbook was created to provide you with pertinent information about the MPH program and to introduce you to the faculty and staff with whom you will be working.

At New Student Orientation we will address the topics within this handbook. An electronic copy will be posted on the MPH website. The University's website, www.upenn.edu, provides even more comprehensive information on Penn student resources and services.

Again, welcome to the MPH program. We look forward to working with you.

Sincerely,

Hillary Nelson, PhD MPH
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MISSION, VISION, VALUES, AND GOALS

The University of Pennsylvania Master of Public Health program (MPH) aims to provide a focal point for enhancing collaborations in public health research, teaching and service campus wide. Penn's curriculum enables students to develop skills and competencies that are responsive to the changing public health environment and that complement their training and experience in related fields.

Mission

The University of Pennsylvania MPH program leverages the University's interdisciplinary resources to prepare the next generation of public health leaders and innovators to promote the health of populations locally, nationally, and globally.

Vision

Establish healthy practices, places, and populations through inter-professional collaboration, exemplary education, research, and community engagement

Values

The MPH program's values are consistent with the University's commitment to promote faculty, students, and staff to achieve worldwide distinction via groundbreaking research, exceptional scholarship, and collaborative engagements locally, nationally, and globally.

- The MPH program is committed to creating a community of diverse students, scholars, and staff dedicated to promoting health for all populations.
- The Penn MPH program respects self-determination, empowerment, and community participation in collaborative, multi-disciplinary efforts to promote health equity as a public good.
- The Penn MPH program promotes the integration of knowledge into evidence-based public health programs and policies.
- The Penn MPH program believes that health is a human right.

Goals

The overall goals of the MPH program are to:

- Train and support future public health leaders
- Provide high quality, evidence-based classroom instruction
- Recruit and retain a talented and diverse student body
- Disseminate key findings from public health research and practice
- Cultivate a unique interdisciplinary program that engages public health partners within and outside of Penn
- Serve the local Philadelphia community
- Support workforce and professional development

ACCREDITATION STATUS

The MPH program of the University of Pennsylvania is accredited by the Council on Education for Public Health (CEPH).

CEPH is an independent accrediting body recognized by the U.S. Department of Education to accredit Schools of Public Health and graduate Public Health programs outside of schools of public health that prepare students for entry into careers in public health.

For more information on CEPH, refer to its website <http://www.ceph.org> or contact:

Council on Education for Public Health
800 Eye Street, NW, Suite 202
Washington, DC 20001
215-789-1050
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MPH PROGRAM KEY CONTACTS (2020-2021)

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ACADEMIC PROGRAM OVERVIEW

MPH Degree Requirements

The University of Pennsylvania follows a standard semester system for academic terms. The minimum degree requirements for all three MPH tracks and for the MPH in association with a dual degree is 14 course units (CU), which is equivalent to 42 semester credit units.

Regardless of track, students take the same Core Course Requirements, including 7 required core courses, two semesters of Capstone Seminar, and Fieldwork Experience. The MPH core courses will cover the 12 Foundational Public Health Knowledge and 22 MPH Foundational Competencies required by CEPH.

MPH Foundational Competencies

As a practice-based degree, the MPH is designed to teach a particular skill set. Through the seven required core courses, students will obtain knowledge in the following 22 MPH Foundational Competencies.

Evidence-based Approaches to Public Health

1. Apply epidemiological methods to the breadth of settings and situations in public health practice
2. Select quantitative and qualitative data collection methods appropriate for a given public health context
3. Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate
4. Interpret results of data analysis for public health research, policy or practice

Public Health & Health Care Systems

5. Compare the organization, structure and function of health care, public health and regulatory systems across national and international settings
6. Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and societal levels

Planning & Management to Promote Health

7. Assess population needs, assets and capacities that affect communities' health
8. Apply awareness of cultural values and practices to the design or implementation of public health policies or programs
9. Design a population-based policy, program, project or intervention
10. Explain basic principles and tools of budget and resource management
11. Select methods to evaluate public health programs

Policy in Public Health

12. Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence
13. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes
14. Advocate for political, social or economic policies and programs that will improve health in diverse populations
15. Evaluate policies for their impact on public health and health equity

Leadership

16. Apply principles of leadership, governance and management, which include creating a vision, empowering others, fostering collaboration and guiding decisionmaking
17. Apply negotiation and mediation skills to address organizational or community challenges

Communication

18. Select communication strategies for different audiences and sectors
19. Communicate audience-appropriate public health content, both in writing and through oral presentation
20. Describe the importance of cultural competence in communicating public health content

Interprofessional Practice

21. Perform effectively on interprofessional teams
Systems Thinking
22. Apply systems thinking tools to a public health issue

A strength of our program is the capacity of students to take advantage of a broad and deep set of elective offerings which allows students to develop an individualized program of study that will facilitate the acquisition of the specific knowledge, skills, and abilities they seek. Upon consultation with their Academic Advisor, students choose electives that will give them the skills and content that they need to succeed in their future careers. For each track, students will select at least one elective from a short list of **required track electives (RTEs)**, each of which has been designed to teach at least five additional competencies. As described below, these track competencies can be applied in both their Fieldwork and Capstone, so the Academic Advisor ensures that the choice of RTE fits with the student's plan for these experiences. Students select other electives within the MPH program or from the University in general that will strengthen their overall training in public health and prepare them for the next steps in their career.

The **Required Fieldwork Experience** allows students to apply their competencies to the practice of public health in an experience that is relevant to the student's area of specialization. This experience satisfies CEPH's requirement for an Applied Practice Experience. Fieldwork experiences are conducted under the supervision of a community preceptor from a community-based fieldwork site. Students must identify five competencies, with at least three from the list of Foundational Competencies above. These competencies are chosen with consultation from the Fieldwork Coordinator and Fieldwork Preceptor.

The **Capstone** is a culminating experience that satisfies CEPH's requirement for an Integrative Learning Experience, and it represents another opportunity for students to apply the competencies they have obtained from the core courses and their chosen Required Track Electives. In two Capstone Seminars, students will have an opportunity to synthesize the knowledge and public health competencies they have acquired through their coursework, apply them to solving public health problems in their area of interest as well as those of their peers, reflect together to learn from each other and from the relevant body of public health experience including the scientific literature, and begin to develop a common grounding and identity as public health professionals. The overall Capstone experience links these two seminars with mentored research or mentored project in public health. Over the course of the Capstone, students will develop, propose, revise, implement, and present their work.

Generalist Track

The Generalist Track is the most popular and most flexible course of study. This track has been designed for students who want a general focus on the practice of public health. With consultation from their Academic Advisor, students develop a plan of study that choose electives that build on the skills learned in their foundational classes and give them the competencies and content needed to succeed in their future careers. At least two electives must have a PUBH prefix. Of those, at least one must be from the list of Required Track Electives specific to the Generalist Track. The other three electives may be from other graduate programs, as long as they are approved by their Academic Advisor and Curriculum Committee as having sufficient public health content. Generalist Health will identify and carry out Fieldwork Experiences and a Capstone project that addresses their public health interests and learning goals, as well as giving them an opportunity to apply their Foundational and Track competencies.

Generalist Track Degree Requirements	Course Units
<i>Core</i>	
PUBH501 Introduction to Biostatistics	1.0
PUBH502 Introduction to the Principles & Methods of Epidemiology	1.0
PUBH503 Environmental & Occupational Health	1.0
PUBH504 Public Health Theories & Framework	1.0
PUBH505 Public Health Policy & Administration	1.0
PUBH506 Methods for Public Health Practice	1.0
PUBH507 Public Health law & Ethics	1.0
PUBH508 Capstone Seminar I	1.0
PUBH509 Capstone Seminar II	1.0
Required Fieldwork Experience (125 hours)	
<i>Track-specific Electives</i>	
Required Track Elective (RTE)	1.0
<i>Electives</i>	
PUBH prefix course selection to meet student interest	1.0
University-wide course selection to meet student interests, with prior approval for public health content	3.0
TOTAL	14

Generalist Track Competencies:

1. Critically synthesize the public health research and practice literature for a selected public health topic
2. Assess the reliability and validity of research methods
3. Assess epidemiological study types using the hierarchy of evidence
4. Critically evaluate the strengths and limitations of epidemiologic studies
5. Develop written and oral policy communications to influence decision-makers
6. Determine factors influencing successful policy implementation
7. Evaluate the role of government & financing in shaping policy and health outcomes
8. Analyze the geographic and demographic distribution of diseases in the U.S. and globally
9. Identify mitigation strategies for regional, national and global diseases
10. Apply skills in evaluation design and implementation to evaluate public health programs
11. Assess the ways in which disparities affect the health of a population
12. Create an advocacy campaign for a community organization, keeping in mind organizational considerations, constituents, targets, and long-term goals
13. Apply knowledge and awareness of community needs to develop recommendations for effective community-level public health interventions or local policy changes
14. Develop a budget for a public health program
15. Identify funding sources for public health programs and construct a grant proposal
16. Identify core concepts from behavioral science and behavioral economics and their relevance for public health programs
17. Identify and critically evaluate effective health-related behavior change strategies.
18. Create a deterministic model of the transmission and control of an infectious disease, including the model equations, the formula for reproduction ratio, and derivation step
19. Discuss of the advantages and disadvantages of agent-based models compared to deterministic models of disease transmission
20. Describe the use of agent-based models to evaluate public health interventions for the control of infectious diseases – Written report on an agent based, spatial stochastic model, or network model
21. Create a codebook and use it to conduct a thematic analysis of qualitative data such as interview transcripts and/or observation notes
22. Apply awareness of research ethics and participant relationships when conducting interviews or observations at the individual or community level
23. Develop novel explanatory theories to answer research questions based on analysis of qualitative data

Generalist Track RTEs:

- PUBH519: Foundations of Global Health
- PUBH521: Program Evaluation
- PUBH588: Leadership Skills in Community Health
- PUBH604: Qualitative Research in Public Health
- PUBH605: Epidemiology of Infectious Disease
- PUBH606: Synthesis & Translation of Epidemiology Literature
- PUBH607: Advanced Local Public Health Policymaking
- PUBH608: Behavioral Economics and Health
- PUBH610: Mathematical Models for the Control of Infectious Diseases
- PUBH637: Advocacy and Public Health

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Generalist Track Competencies and Grid of RTEs:

TRACK COMPETENCIES	PUBH 519	PUBH 521	PUBH 588	PUBH 604	PUBH 605	PUBH 606	PUBH 607	PUBH 608	PUBH 610	PUBH 637
1. Critically synthesize the public health research and practice literature for a selected public health topic	X		X	X	X	X	X	X	X	X
2. Assess the reliability and validity of research methods		X		X	X	X		X		
3. Assess epidemiological study types using the hierarchy of evidence					X	X		X		
4. Critically evaluate the strengths and limitations of epidemiologic studies					X	X				
5. Develop written and oral policy communications to influence decision-makers							X			X
6. Determine factors influencing successful policy implementation						X	X			X
7. Evaluate the role of government & financing in shaping policy and health outcomes	X		X				X			X
8. Analyze the geographic and demographic distribution of diseases in the U.S. and globally	X				X					
9. Identify mitigation strategies for regional, national and global diseases	X				X				X	
10. Apply skills in evaluation design and implementation to evaluate public health programs		X								
11. Assess the ways in which disparities affect the health of a population	X	X	X							
12. Create an advocacy campaign for a community organization, keeping in mind organizational considerations, constituents, targets, and long-term goals			X							X
13. Apply knowledge and awareness of community needs to develop recommendations for effective community-level public health interventions or local policy changes			X				X			
14. Develop a budget for a public health program		X								
15. Identify funding sources for public health programs and construct a grant proposal		X								
16. Identify core concepts from behavioral science and behavioral economics and their relevance for public health programs								X		
17. Identify and critically evaluate effective health-related behavior change strategies.								X		
18. Create a deterministic model of the transmission and control of an infectious disease, including the model equations, the formula for reproduction ratio, and derivation step									X	
19. Discuss of the advantages and disadvantages of agent-based models compared to deterministic models of disease transmission									X	
20. Describe the use of agent-based models to evaluate public health interventions for the control of infectious diseases – Written report on an agent based, spatial stochastic model, or network model									X	
21. Create a codebook and use it to conduct a thematic analysis of qualitative data such as interview transcripts and/or observation notes				X						
22. Apply awareness of research ethics and participant relationships when conducting interviews or observations at the individual or community level				X						
23. Develop novel explanatory theories to answer research questions based on analysis of qualitative data				X						

Global Health Track

Penn’s MPH Global Health Track offers a curriculum designed specifically for applicants to the interdisciplinary Master of Public Health program who are interested in both the theory and practice of global public health. Recognizing that global health is an emerging area in the field, Penn’s global health curriculum delivers core public health skills within a global context. With consultation from their Academic Advisor, students develop a plan of study that chooses electives that will help them succeed as a global health professional. Global health students must take at least one of the following Required Track Electives: PUBH519 (Foundations of Global Health), PUBH525 (Health and Human Rights), and PUBH551 (Global Health Policy). At least two other electives must be come from a list approved by the Global Health track directors for their global health relevance. Overall, at least two electives must have a PUBH prefix, while the other three may be from graduate level course across the University, as long as they have sufficient public health content. Global Health Track students will identify and carry out Fieldwork Experiences and a Capstone project that addresses their key global public health interests and learning goals, as well as giving them an opportunity to apply their Foundational and Track competencies.

Global Track Degree Requirements	Course Units
<i>Core</i>	
PUBH501 Introduction to Biostatistics	1.0
PUBH502 Introduction to the Principles & Methods of Epidemiology	1.0
PUBH503 Environmental & Occupational Health ¹	1.0
PUBH504 Public Health Theories & Framework	1.0
PUBH505 Public Health Policy & Administration	1.0
PUBH506 Methods for Public Health Practice	1.0
PUBH507 Public Health law & Ethics	1.0
PUBH508 Capstone Seminar I	1.0
PUBH509 Capstone Seminar II	1.0
Required Fieldwork Experience (125 hours)	
<i>Track-specific Electives</i>	
Required Track Elective (RTE)	1.0
<i>Electives²</i>	
Approved Global Health Elective to meet student interest ³	2.0
Approved additional electives to meet student interests ⁴	3.0
TOTAL	14

¹ May substitute PUBH514 Experiential Learning in Environmental & Occupational Health

² Note that at least two electives must have a PUBH prefix

³ Current approved Global Health Electives listed [here](#)

⁴ University-wide courses may be selected with prior approval for public health content

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Global Health Track Competencies:

1. Evaluate interventions, programs, policies, or health care systems in international settings or global health context
2. Develop a policy or program plan to decrease health disparities or inequity and improve population health in a global setting
3. Examine global health issues through the lens of the social determinants of health or human rights principles
4. Apply the principles of cultural competence when discussing public health in a global or international setting
5. Analyze the roles, relationships, and resources of the entities influencing global health

Global Health Track RTEs:

PUBH519: Foundations of Global Health

PUBH525: Health and Human Rights

PUBH551: Global Health Policy

Global Health Track Courses and Grid:

TRACK COMPETENCIES	PUBH519 Foundations of Global Health	PUBH525 Health & Human Rights	PUBH551 Global Health Policy
1. Evaluate interventions, programs, policies, or health care systems in international settings or global health context	X	X	X
2. Develop a policy or program plan to decrease health disparities or inequity and improve population health in a global setting	X	X	X
3. Examine global health issues through the lens of the social determinants of health or human rights principles	X	X	X
4. Apply the principles of cultural competence when discussing public health in a global or international setting	X	X	X
5. Analyze the roles, relationships, and resources of the entities influencing global health	X	X	X

Environmental Health Track

Penn's Environmental Health Track offers a curriculum designed specifically for applicants to the interdisciplinary Master of Public Health program who are interested in mastering skills in identifying, investigating, ameliorating, and communicating about environmental health risks, including the social and built environment. Key strengths of this track include the MPH program's ability to provide mentored Capstone and Fieldwork experiences, especially focused on the urban environment and communities with an aging industrial infrastructure, such as Philadelphia and its many surrounding areas. With consultation from their Academic Advisor, students develop a plan of study that chooses electives that will help them succeed in the field of environmental health. At least two electives must have a PUBH prefix. Of those, at least one must be from the list of Environmental Health Track RTEs: PUBH514 (Experiential Learning in Environmental Health), PUBH517 (Geography and Health), and PUBH523 (Epidemics, Emergencies, and Environmental Threats). The other three electives may be from other graduate programs, as long as they are approved by their Academic Advisor and Curriculum Committee as having sufficient public health content. Generalist track students will identify and carry out Fieldwork Experiences and a Capstone project that addresses their public health interests and learning goals, as well as giving them an opportunity to apply their Foundational and Track competencies.

Environmental Health Track Degree Requirements	Course Units
<i>Core</i>	
PUBH501 Introduction to Biostatistics	1.0
PUBH502 Introduction to the Principles & Methods of Epidemiology	1.0
PUBH503 Environmental & Occupational Health	1.0
PUBH504 Public Health Theories & Framework	1.0
PUBH505 Public Health Policy & Administration	1.0
PUBH506 Methods for Public Health Practice	1.0
PUBH507 Public Health law & Ethics	1.0
PUBH508 Capstone Seminar I	1.0
PUBH509 Capstone Seminar II	1.0
Required Fieldwork Experience (125 hours)	
<i>Track-specific Electives</i>	
Required Track Elective (RTE) ¹	1.0
<i>Electives²</i>	
Approved Environmental Health Elective to meet student interest	2.0
Approved additional electives to meet student interests ³	3.0
TOTAL	14

¹ May choose from PUBH514, PUBH517, and PUBH523

² Note that at least two electives must have a PUBH prefix

³ University-wide courses may be selected with prior approval for public health content

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Environmental Health Track Competencies:

1. Describe how climate and geography impact human health
2. Analyze the effects of the built environment on a population’s health
3. Discuss the concept of environmental justice in various settings
4. Specify approaches for assessing, preventing, or controlling environmental hazards that pose risks to human health
5. Describe the use of geographic information systems in the context of public health
6. Apply Geographic information systems (GIS) methods to the breadth of settings in public health practice
7. Use spatial epidemiology to compare how the built environment changes over time
8. Analyze stakeholder involvement in the public health response to an environmental threat

Environmental Health RTEs:

PUBH514: Experiential Learning in Environmental Health

PUBH517: Geography and Health

PUBH523: Epidemics, Emergencies, and Environmental Threats

Environmental Health Track Courses and Grid:

TRACK COMPETENCIES	PUBH514	PUBH517	PUBH523
1. Describe how climate and geography impact human health	X	X	X
2. Analyze the effects of the built environment on a population’s health	X	X	X
3. Discuss the concept of environmental justice in various settings	X		X
4. Specify approaches for assessing, preventing, or controlling environmental hazards that pose risks to human health	X		X
5. Describe the use of geographic information systems in the context of public health		X	
6. Apply Geographic information systems (GIS) methods to the breadth of settings in public health practice		X	
7. Use spatial epidemiology to compare how the built environment changes over time		X	
8. Analyze stakeholder involvement in the public health response to an environmental threat	X		X

One Health Track

Penn's One Health Track offers a curriculum designed specifically for applicants to the interdisciplinary Master of Public Health program who are interested in the intersection between animals, humans, and the environment. Key strengths of this track are the close ties between the MPH program and the School of Veterinary Medicine, who are one of the leaders in the field of One Health. Although this Track was designed for students in the VMD/MPH dual degree program, it is open to all MPH students. With consultation from their Academic Advisor, students develop a plan of study that chooses electives that will help them succeed in the field of One Health. All students must take VPTH550 (One Health Study Design). In addition, they must choose one of the following courses: PUBH531 (Public Health Nutrition), PUH553 (Science and Politics of Food), VMED607 (Veterinary Public Health), VMED619 (Emerging Exotic Diseases), and VSCN657 (One Health & Global Food Security). The other three electives may be from other graduate programs, as long as they are approved by their Academic Advisor and Curriculum Committee as having sufficient public health content. One Health track students will identify and carry out Fieldwork Experiences and a Capstone project that addresses their public health interests and learning goals, as well as giving them an opportunity to apply their Foundational and Track competencies.

One Health Track Degree Requirements	Course Units
<i>Core</i>	
PUBH501 Introduction to Biostatistics ¹	1.0
PUBH502 Introduction to the Principles & Methods of Epidemiology ²	1.0
PUBH503 Environmental & Occupational Health ³	1.0
PUBH504 Public Health Theories & Framework	1.0
PUBH505 Public Health Policy & Administration	1.0
PUBH506 Methods for Public Health Practice	1.0
PUBH507 Public Health law & Ethics	1.0
PUBH508 Capstone Seminar I	1.0
PUBH509 Capstone Seminar II	1.0
Required Fieldwork Experience (125 hours)	
<i>Track-specific Electives</i>	
VPTH660 One Health Study Design	1.0
Required Track Elective (RTE) ⁴	1.0
<i>Electives</i>	
Approved Elective to meet student interest ⁵	3.0
TOTAL	14

¹ May substitute VCSBN634 (Clinical Biostats)

² May substitute VMED606 (Principles of Epidemiology)

³ May substitute PUBH514 Experiential Learning in Environmental & Occupational Health

⁴ May choose from: PUBH531, PUBH553, VMED607, VMED619, VSCN657

⁵ University-wide courses may be selected with prior approval for public health content

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One Health Track Competencies:

1. Evaluate and integrate literature from across different disciplines to develop a thorough understanding of a One Health problem or topic
2. Prepare a study proposal (i.e. grant) that incorporates the tenets of One Health (i.e. the COHERE guidelines)
3. Design the ideal team of individual experts to investigate a One Health issue with a transdisciplinary approach
4. Critically evaluate scientific research on a food or nutrition policy.
5. Describe the complex factors (e.g. psychological, political, cultural, or economic) that influence what we eat.
6. Identify the critical drivers of disease emergence and possible impacts such emergence has on human, animal and environmental health.
7. Demonstrate the role of local, state, national and international agencies in controlling transboundary diseases of one-health importance.
8. Describe the range of effects that animal diseases (including those that are not zoonotic) can have on human health and confidence in government and agricultural systems.
9. Analyze the cultural, economic, health and welfare drivers of diverse stakeholders in response to an animal disease that has environmental and potentially human health consequences.
10. Evaluate the role of livestock (poultry, dairy, beef, porcine, aquaculture) in sustainable food systems
11. Describe the metrics associated with animal agriculture and climate change

One Health Track Courses and Grid:

Note: All students take VPTP550 and then choose at least one of the other five courses

Track Competencies	VPTH 550	PUBH 531	PUBH 553	VMED 619	VMED 607	VCSN 657
1. Evaluate and integrate literature from across different disciplines to develop a thorough understanding of a One Health problem or topic	X					
2. Prepare a study proposal (i.e. grant) that incorporates the tenets of One Health (i.e. the COHERE guidelines)	X					
3. Design the ideal team of individual experts to investigate a One Health issue with a transdisciplinary approach	X					
4. Critically evaluate scientific research on a food or nutrition policy		X	X			
5. Describe the complex factors (e.g. psychological, political, cultural, or economic) that influence what we eat		X	X			
6. Identify the critical drivers of disease emergence and possible impacts such emergence has on human, animal and environmental health				X		
7. Demonstrate the role of local, state, national and international agencies in controlling transboundary diseases of one-health importance				X		
8. Describe the range of effects that animal diseases (including those that are not zoonotic) can have on human health and confidence in government and agricultural systems					X	
9. Analyze the cultural, economic, health and welfare drivers of diverse stakeholders in response to an animal disease that has environmental and potentially human health consequences					X	
10. Evaluate the role of livestock (poultry, dairy, beef, porcine, aquaculture) in sustainable food systems						X
11. Describe the metrics associated with animal agriculture and climate change						X

PLANNING FOR MPH STUDY

Each MPH student will meet with the MPH Director or MPH Associate Director prior to start of the first semester for advisor assignments and a preliminary plan of study.

Sample Full-time Course Layouts*:

**1 course unit (CU) = 1 course*

Fall Year 1	Spring Year 1	Summer Year 1
3 CUs	3 CUs	2 CUs
Fall Year 2	Spring Year 2	
3 CUs	3 CUs	

Fall Year 1	Spring Year 1	Summer Year 1
4 CUs	4 CUs	Complete fieldwork (no courses)
Fall Year 2	Spring Year 2	
3 CUs	3 CUs	

Sample Part-time Course Layouts*:

**1 course unit (CU) = 1 course*

Fall Year 1	Spring Year 1	Summer Year 1
2 CUs	2 CUs	1 CU
Fall Year 2	Spring Year 2	
2 CUs	2 CUs	1 CU
Fall Year 3	Spring Year 3	
2 CUs	2 CUs	

Fall Year 1	Spring Year 1	Summer Year 1
2 CUs	2 CUs	2 CU
Fall Year 2	Spring Year 2	
2 CUs	2 CUs	Complete Fieldwork (no courses)
Fall Year 3	Spring Year 3	
2 CUs	2 CUs	

PROGRAM ADVISING

Each student meets with the Director or Associate Director to outline a preliminary study plan and complete initial course selections and registration prior to new student orientation. Students are assigned an Academic Advisor, who is a member of the MPH program faculty. Academic advisors help advise on the sequencing of the core courses and choice of electives, and also function as a mentor with whom to discuss what types of fieldwork or capstone experiences will help students achieve their goals. Students are encouraged to meet or communicate with their Academic Advisors at least once per semester, but more often if necessary. During the first year of study, all MPH students are encouraged to meet with the Fieldwork Coordinator to identify a fieldwork experience. As students prepare for their Capstone project, their Academic Advisor will connect them to the Capstone I Director as applicable.

COURSE REGISTRATION

How and When to Register for Courses

The MPH Associate Director will provide instructions on advanced registration in the previous semester. A full list of courses running in the MPH program will be shared at that time. Students will register on their own through Penn InTouch, using their PennKey and password. Should additional permission or assistance be needed, students should contact the MPH Administrative Coordinator.

Information on courses offerings at the University (e.g. timetables, classrooms, and course descriptions) can be found on the Office of University Registrar's website at <http://www.upenn.edu/registrar>. Navigate the site using the links on the left hand side of the webpage. The most up-to-date information of PUBH course descriptions can also be found on the MPH website (<https://www.med.upenn.edu/cphi/ MPH/course-listing.html>) or by emailing the Administrative Coordinator (nickvm@penmedicine.upenn.edu).

Priority Registration

Matriculated MPH students and Public Health certificate students will be guaranteed priority seating in PUBH-prefix courses until three weeks prior to the start of classes.

Registration will then open for non-matriculated, other graduate students, LPS students, and undergraduate students during the third week prior to the start of classes based on the list of requests from students, which the program will keep on a first-come, first-serve basis.

Two weeks prior to the start of classes the MPH Office will release department registration controls, allowing any Penn graduate student to register for a PUBH course via CIT until the course reaches the course cap. Undergraduate students still need to contact the course faculty for permission.

Add/Drop/Withdraw Policy

Students who drop a course within the course selection period, which is the first two weeks of the term, will receive a full tuition refund. Students will be responsible for 50% of the tuition and fees

for any course dropped between the second and fourth weeks of the term. Students who withdraw from a course after the 4th week of the term will be responsible for 100% of tuition and fees, and a **W** will show on the transcript.

Summer term class add/drop/withdraw schedules are published annually by the University.

COURSES

All PUBH course descriptions can be found on our website at <http://www.cphi.upenn.edu/cphi/mph/course-listing.html>.

Electives

The following guiding principles apply to any consideration of electives:

- Students work in collaboration with the MPH program staff and Academic Advisors to choose specific courses. At least 2.0 CU of elective credit must be taken under the PUBH prefix. At least one of those PUBH elective credits must be a Required Track Elective (RTE), specific to the track that the student has chosen.
- For non-PUBH courses, the course content must be linked to the public health paradigm. In addition to the list of pre-approved electives, students may submit a syllabus to the Co-Director and Associate Director for approval. These will be sent to an ad hoc sub-committee of the Curriculum Committee for approval.

Guidelines for Independent Study (PUBH 599)

Independent study opportunities to meet the elective requirements of the MPH program are available to the self-directed, motivated student who wants to expand her/his knowledge in an area of particular interest. Independent study must meet the elective requirements for the MPH program and must be approved by the MPH Director before the study begins.

The following process is recommended:

- The independent study credit allotment is generally one credit unit for the 14 week semester and requires a minimum of 150 contact hours, however other credit options may be discussed with the MPH Director.
- Planning for independent study must begin with the MPH Director to ensure that it is consistent with the student's overall plan of study.

Procedure:

- After selecting and conferring with an independent study faculty supervisor, the student will complete an Independent Study Proposal.
- **The proposal will include the following information (email is acceptable):**
 - Student's Name
 - Semester/date, CU value
 - MPH Academic Advisor
 - Independent Study faculty supervisor
 - Title of Independent Study
 - Statement of learning objectives and deliverables
 - Student plan for meeting objectives
 - Signatures of faculty supervisor, student, and advisor

- Copies of the approved proposal will be kept in the student's file.
- The student and the independent study faculty supervisor will schedule regular meetings throughout the semester. The faculty supervisor will oversee and evaluate the project.
- A bibliography must accompany all independent study projects. A paper or project is required.
- At the end of the semester of independent study, a student evaluation and a faculty supervisor evaluation will be completed and returned to the MPH Director.
- **The student evaluation will include the following:**
 - Summary statement of the time invested and accomplishments during the semester of independent study
 - Evaluation of the fulfillment of predetermined independent study learning objectives
 - Indication that the student and faculty supervisor have reviewed the evaluation
- **The Independent Study faculty supervisor evaluation will include the following:**
 - Evaluation of student fulfillment of learning objectives
 - Evaluation of written work
 - A final grade
 - Indication that the student and faculty supervisor have reviewed the evaluation
- A copy of the final project will be provided to the MPH office for placement in the student's file.

CAPSTONE AND FIELDWORK EXPERIENCE

The Capstone Experience

The required culminating experience or Capstone is a guided research or service project, which satisfies CEPH's requirements for an Integrative Learning Experience.

The Capstone seminar course (PUBH 508 and PUBH 509) is a required two semester credit bearing course and is a core element of the MPH Program. The capstone courses are overseen by two Capstone Course Directors (one for PUBH508 and one for PUBH509) to ensure that these courses provide each student with the framework to apply knowledge gained across the curriculum in development of their Capstone project. Students are encouraged to meet with the Capstone Course Director/s to help frame their capstone experiences.

Capstone students are responsible for designing and completing a public health project and presenting a deliverable (described in the syllabus) to the Penn public health community and stakeholders. Each student must identify a faculty mentor, (referred to as the Capstone faculty mentor) who will oversee the design and development of the deliverable. Each student is required to conduct a comprehensive review of the relevant literature to assure they understand the social, cultural, and environmental context of the public health problem of interest. Additionally, students

are asked to pay particular attention to the relevant policy environment, and to the needs of vulnerable populations. The nature and scope of the project is determined jointly by the student, Capstone faculty mentor, and their Capstone course instructor. Each student should design a project that addresses their academic interests and affords them an opportunity to apply to at least three MPH competencies, at least two of which need to be track-specific competencies. Because this is a culminating experience, students should have taken a substantial number of MPH courses prior to starting the capstone sequence. In general, MPH students with no prior public health coursework should complete 6 PUBH-prefix courses prior to matriculating in Capstone I. MPH students with advanced degrees and dual degree students should complete 4 PUBH-prefix courses prior to matriculating in Capstone 1.

Fieldwork Experience

CEPH requires that all MPH students in its accredited programs demonstrate the application of basic public health (PH) concepts through an Applied Practice Experience that is relevant to the student's area of specialization. Thus, the goal of Penn's Fieldwork Experience is for a student to gain real-world PH experience while building PH skills and competencies through engagement in meaningful PH activities. The Fieldwork experience is to be conducted under the supervision of a Community Preceptor and on the behalf of a PH organization, or as part of a PH research project, or PH intervention conducted in the field. The fieldwork experience should allow student to demonstrate attainment of at least foundational or track-specific competencies, with at least three of them as MPH Foundational Competencies.

Students in the Penn MPH Program must complete 125 hours of field experience before they can graduate from the program.

Activities conducted as a part of the Fieldwork Experience must contribute to programming that has the potential to have a population level impact. Activities must also be easily linked to at least 5 competencies, of which at least 3 must be MPH foundational competencies. Two Track specific competencies may be included in the five. A listing of foundational and/or track specific competencies can also be found on the Fieldwork Approval Form.

Field Placement

The Fieldwork Coordinator, Elaine Weigelt, MPH, will meet with all students to discuss student interests, characteristics of fieldwork, required paperwork, etc. Prior to scheduling a meeting to discuss Fieldwork each student should submit the FW Advising Form, which may be found on the Canvas Student Home Base. Based on this meeting and the interests/existing connections of the student, one of the following will happen:

- The Fieldwork Coordinator will assist the student in identifying an appropriate fieldwork site, project, and community preceptor. (This is the primary way most fieldwork placements are put into place.)
- The students will use their own connections and organize their own project, site, and community preceptor, if this route is desired by the student.
- The students will enlist the help of their advisor or selected MPH faculty member in identifying an appropriate site, project, and community preceptor, if this route is desired by the student.

Work in the Field

Once placed at an appropriate field site and under the supervision of an appropriate community preceptor, students must complete 125 hours conducting the agreed upon tasks associated with their approved project. This can be done all at once (e.g. working full time for approximately 3 ½ weeks) or part time (e.g. working 3 hours/week for 42 weeks). Decisions about a schedule which outlines how the 125 hours will be completed by the student, should be made by the student in collaboration with the community preceptor. This schedule should be included in the Fieldwork approval form (see below for details) and approved by Elaine Weigelt, Fieldwork Coordinator.

Required Forms

Students need to complete three forms over the course of their Fieldwork:

- The Fieldwork Approval Form
- The Fieldwork Activity Log
- The Fieldwork Summary Form (**Includes 2 site deliverables**)
 - Two deliverables submitted electronically on the summary form, which convey application of foundational and track-specific competencies (i.e. written reports, presentations, data briefs, etc.). *Note: The materials may originate from multiple experiences or a single, intensive experience with one site.*

The Fieldwork Approval Form requires signatures from the Student and the Fieldwork Coordinator, Elaine Weigelt. The Fieldwork Approval Form and Activity Log require the signature of the Community Preceptor as well. For the Fieldwork experience to be finalized, the Community Preceptor also is expected to fill out a student evaluation form. This form is not shared with the student, but the Fieldwork cannot be considered completed until it is received.

All forms noted above (4 in total, 3 to be completed by the student, and 1 to be completed by the Community Preceptor) must be submitted to and approved by the Fieldwork Coordinators. Links to Fieldwork forms can be found here: <https://canvas.upenn.edu/courses/1234368/pages/required-fieldwork-forms>.

Timing of Paperwork

The Fieldwork approval form needs to be submitted to Elaine Weigelt within the first week of placement. This approval form can be submitted no later than 2 ½ months prior to the student's expected graduation date. All 4 forms related to Fieldwork (approval, log, summary and student evaluation) need to be received by the MPH Office no later than 4 weeks prior to the student's expected graduation date.

Completing the Fieldwork in Relation to the Capstone Project

Students have the option of completing their Fieldwork separately from their Capstone Project or combining the two requirements of the program. Combined projects must include 125 hours of fieldwork (as defined above) and a final, culminating project that meets the requirements of the Capstone course and Capstone Mentor. This option is only appropriate when the Capstone Project involves PH work done in the field and in collaboration with community members and/or community-based organizations.

DUAL DEGREE AND CERTIFICATE PROGRAMS

Dual Degree Program

Penn offers a rich, comprehensive, and intellectually stimulating academic environment with respect to content areas of relevance to population health. One of the primary goals of the Penn MPH program is to educate individuals who have or are developing an in-depth base in a specific profession or disciplinary content area that is related to public health. Therefore, considerable emphasis is placed on the development of joint programs in which MPH study is done concurrently or partly overlapping with completion of another Penn graduate degree.

The following dual degree programs are offered in conjunction with MPH:

- Medical Doctorate (MD)
- Juris Doctorate (JD)
- Doctor of Dental Medicine (DMD)
- Veterinariae Medicinae Doctoris (VMD)
- Doctor of Philosophy (PhD)¹
- Master of Bioethics (MBE)
- Master of Science in Nursing (MSN)
- Master of Environmental Studies (MES)
- Masters in Social Work (MSW)
- Master of Science in Social Policy (MSSP)
- Master of Public Policy and Administration (MPA)
- MS Nonprofit Leadership-MPH
- Master in Law (ML)
- BA/BS-MPH²

¹ Note: There is no PhD in public health. Any student pursuing an outside PhD program can inquire about the opportunity to add the MPH to their degree. The PhD program must give permission before a dual degree can be considered.

² This program is limited to undergraduate students in the College of Arts & Sciences at the University of Pennsylvania

Further dual degree possibilities are in development. Students interested in pursuing a dual degree program are encouraged to discuss their interests with the MPH Associate Director.

Certificate Programs

The MPH Program currently offers three certificate programs for current Penn students:

- [Public Health Certificate Program](#) is for graduate students enrolled in a PhD (doctoral) program in Biomedical Sciences or related fields like Biology, Chemistry, and Bioengineering.
- [Certificate in Public Health Medicine](#) is for current Perelman School of Medicine medical students
- [Certificate in Public Health and Cognitive Aging](#) is available to qualified Penn graduate students (Master's, PhD, MD, or equivalent) who wish to acquire a body of knowledge that is key to improving the health and psycho-social outcomes for our aging population.

ACADEMIC POLICIES AND CODES OF CONDUCT

University-Level Student Codes and Policies

As a student at the University of Pennsylvania, you are accountable to comply with student codes of conduct and policies. Below is a hyperlinked list of university codes and policies so you can find a full description of each:

- [Code of Student Conduct](#)
- [Code of Academic Integrity](#)
- [Policy on Acceptable Use of Electronic Resources](#)
- [Guidelines on Open Expression](#)
- [Sexual Violence, Relationship Violence and Stalking Policy](#)
- [Sexual Harassment Policy](#)
- [Bicycle Policy](#)

Grading Policies

The MPH grading policy is at the **discretion of the individual course instructors**. Courses taken as pass/fail will not be applied to the MPH degree.

Please find below the generally used grading scale for the MPH Program.

Grade	% Score	GPA
A+	97-100	4.0
A	93-96	4.0
A-	90-92	3.7
B+	87-89	3.3
B	83-86	3.0
B-	80-82	2.7
C+	77-79	2.3
C	73-76	2.0
C-	70-72	1.7
F	0-69	0

Please note that an A+ carries the same weight (4.0) as an A.

Incomplete Grades

It is expected that a matriculated MPH student shall complete the work of a course during the semester in which that course is taken. A student who fails to complete a course within the prescribed period shall receive, at the instructor's discretion, either a grade of I (incomplete) or F (failure). If the incomplete is given, the instructor may permit an extension of time up to one year for the completion of the course. In such cases, any course which is still incomplete after one calendar year from its official ending must remain as incomplete on the student's record and shall not be credited toward the MPH degree. Students who receive two or more incompletes within a semester may not register for the subsequent semester(s) without the permission of the MPH Program Director and the Associate Director.

Good Academic Standing

According to University policy, a graduate student must maintain a cumulative Grade Point Average (GPA) of a 'B' / 3.0 or above to be considered in good academic standing. A student who does not meet the University policy of maintaining a cumulative 'B' /3.0 average will be reviewed by the MPH Program Director, the Associate Director, and the Academic Progressions Committee. A student may be put on academic probation for a period of 1 semester (not including summer session) while taking other courses to improve his/her overall average.

Any course in which the student receives a grade of "C+" or below will not be applied toward the Master of Public Health degree. The record of any student who receives an unsatisfactory grade (less than a 'B-' / 2.7; "C+" or below) in a course will be reviewed by the MPH Program Director, the Associate Director, and the Academic Progressions Committee. A student will be put on academic probation for a period of 1 semester to improve his/her overall average. Students may continue to take other courses during the probation period and the student must make arrangements with the course instructor and the MPH Program Director and/or Associate Director to discuss options for dealing with grades of "C+" or below. Options include studying on his/her own and arranging with the instructor to retake or resubmit the work that led to the unacceptable grade or taking the course again during the next semester in which it is offered. For non-core (elective) courses, students have the option of choosing an alternative course. Specific arrangements must be approved by the MPH Program Director and/or Associate Director, with input from the Academic Progressions Committee as needed.

In general, following academic probation, a return to good academic standing is contingent on maintaining a GPA of 'B' /3.0 or higher and earning a grade of 'B-' or higher in all remaining courses.

Any student who is on academic probation for a period greater than 1 semester will be referred to the Academic Progressions Committee for review and recommendation. This committee is authorized to dismiss the student or to consider whether to allow the student to remain in the program on a probationary basis.

Dual Degree Students and Certificate Students

To remain in good academic standing as an MPH student, dual-degree and certificate students must be in good academic standing for both degree programs. Any student on academic probation in their other degree program will be referred to the Academic Progressions Committee for review and recommendation.

Auditors

A student who desires to attend a course without performing the work of the course must first secure the consent of the student's Program Director and then the course instructor. Students who wish to audit must elect the designation of Auditor at the time of course registration. Upon completion of the course it will show on his or her official university transcript with a grade of "AUD". Auditors pay the same tuition and fees, but receive no credit for the course.

Time to Degree Completion

The program is designed to be completed either as a two-year full-time program or a three-year part-time program. The time to complete the degree may be extended for those who complete the MPH program in combination with another Penn degree (a dual degree). Students must submit a written request to the MPH Program Office when seeking to extend time to complete the program.

Continuous Registration / Leave of Absence

Continuous registration as a graduate student is required unless a formal leave of absence is granted. A student who wishes a leave of absence must submit a written request to the Associate Director of the MPH program for initial approval. The written request and an Action/Transfer Notice will then be submitted to the Associate Dean for Masters Programs for final approval. Students may go on leave for periods of one semester or one year. In unusual circumstances and at the written request of the student, such leaves may be extended for no longer than one additional year; a new Action/Transfer Notice must be filled out for each period of leave. Students who remain on leave longer than two years and who do not respond to the University's attempts to contact them may be withdrawn from active status.

A leave of absence will be granted for:

- Medical – Students with a medical situation that will temporarily interfere with their studies.
- Military Duty
- Family – For the birth or adoption of a child, child care, or care of an immediate family member with a serious health condition.

The above leaves are typically for up to one year and "stops the clock" on time to completion.

- Mandatory – Students who accumulate two or more incomplete grades in a given term or in cumulative terms may be placed on leave until such work is finished satisfactorily.
- Personal – Student decided to leave the University for a time because of work or to pursue other personal goals.

A mandatory or personal leave does not automatically change the time limit.

When a student wishes to return from a leave of absence, a written request must be submitted prior to the start of the desired term.

Any student on a leave of absence who wishes to retain access to Penn's facilities must pay a fee per semester of absence. This fee is added to the Student Financial Services bill by the home school. Students interested in this option, should contact the Office of Masters Programs.

Grievance Procedures

Schools and academic departments within the University have established procedures for the resolution of student grievances concerning academic matters. Students who have a concern about a matter related to the graduate program or a course should first consult with individuals within their graduate program: Instructor, MPH Program Director, or MPH program staff. Both students and faculty should be familiar with the following policies and guidelines regarding the filing of grievances.

A student who wishes to register a grievance regarding an academic matter should first submit a written appeal to the appropriate instructor(s) no later than the end of the following academic semester from which the course was completed. Email appeals are permitted. For courses that are cross-listed between the MPH program and another program, the Director of the MPH Program may consult with the Director of the other program, where appropriate. If the grievance is not resolved, the student should take the grievance to the MPH Program Director, who will consult with the instructor and attempt to resolve the dispute. If the matter continues to be unresolved to the satisfaction of the student and/or instructor, the issue will be referred to the appropriate Dean depending on which schools are involved. For courses that originate from the MPH program, this would be the Associate Dean for PMCP at the Perelman School of Medicine.

The Associate Dean for PMCP will review the situation to determine if the grievance has merit and make an appropriate decision and recommendations. The Associate Dean will notify the student, instructor, and any other MPH staff as needed, and a written copy of the grievance will be kept in the student's file.

For administrative and employment grievances, the student should contact the Associate Director and/or Director of the Program, unless it is more appropriate to contact the Associate Dean of PMCP. For matters related to equal opportunity/affirmative action policies and programs, students should contact The Office of Affirmative Action & Equal Opportunity Programs.

At any point in the grievance process, students may also take concerns to the Office of the Ombudsman. The Office of the Ombudsman is available to members of the Penn community to listen to issues and assist with mediation and conflict resolution. For more information, see the Office of the Ombudsman website at <http://www.upenn.edu/ombudsman>.

Academic Integrity

Students are expected to adhere to the University's Code of Academic Integrity. Care should be taken to avoid academic integrity violations, including: plagiarism, fabrication of information, and multiple submissions. Students who engage in any of these actions will be referred to the Office of Academic Integrity, which investigates and decides on sanctions in cases of academic dishonesty.

See link for more information: <http://www.upenn.edu/academicintegrity/index.html>

Authorship Guidelines

We are proud to say that many MPH student projects lead to publication and presentations. However, that means that students must be prepared to discuss authorship with mentors, faculty

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and fellow students. Conflicts about authorship are common in academia, these include – exclusion, order and, and at times, inclusion (that is listing someone on a paper who has not made a contribution). The best advice for all students and mentors is to openly discuss and negotiate authorship prior to initiating a manuscript. It is not uncommon for authorship order to shift during the development of a manuscript as roles and work load often shift as papers evolve. Before initiating a joint project, the faculty member or mentor and the student should have a clear understanding of how authorship credit on any papers that arise from the work will be determined.

All authors must approve the work before it is submitted for publication. This is true of manuscripts and abstracts. Early conversation about authorship can prevent conflicts and disputes. Authors are usually listed in their order of the weight of their contribution. The designation of first or last author carrying special weight, however it is important to note that the significance of being last author varies with discipline.

Students should review the following:

Authorship: The following recommendations are based upon standards set by the International Committee of Medical Journal Editors (ICMJE) in the Uniform Requirements for Manuscripts Submitted to Biomedical Journals (2010). Please see <http://www.icmje.org> for more information.

Authorship Criteria: An “author” is generally considered to be someone who made substantive intellectual contributions to a published study.

The ICMJE recommends that authorship be based on the following 4 criteria:

- Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
- Drafting the work or revising it critically for important intellectual content; AND
- Final approval of the version to be published; AND
- Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

In addition to being accountable for the parts of the work he or she has done, an author should be able to identify which co-authors are responsible for specific other parts of the work. In addition, authors should have confidence in the integrity of the contributions of their co-authors.

All those designated as authors should meet all four criteria for authorship, and all who meet the four criteria should be identified as authors. Those who do not meet all four criteria should be acknowledged—see Section II.A.3 below. These authorship criteria are intended to reserve the status of authorship for those who deserve credit and can take responsibility for the work. The criteria are not intended for use as a means to disqualify colleagues from authorship who otherwise meet authorship criteria by denying them the opportunity to meet criterion #s 2 or 3. Therefore, all individuals who meet the first criterion should have the opportunity to participate in the review, drafting, and final approval of the manuscript.

The individuals who conduct the work are responsible for identifying who meets these criteria and ideally should do so when planning the work, making modifications as appropriate as the work progresses. It is the collective responsibility of the authors, not the journal to which the work is submitted, to determine that all people named as authors meet all four criteria; it is not the role of journal editors to determine who qualifies or does not qualify for authorship or to arbitrate authorship conflicts. If agreement cannot be reached about who qualifies for authorship, the institution(s) where the work was performed, not the journal editor, should be asked to investigate. If authors request removal or addition of an author after manuscript submission or publication,

journal editors should seek an explanation and signed statement of agreement for the requested change from all listed authors and from the author to be removed or added.

The corresponding author is the one individual who takes primary responsibility for communication with the journal during the manuscript submission, peer review, and publication process, and typically ensures that all the journal's administrative requirements, such as providing details of authorship, ethics committee approval, clinical trial registration documentation, and gathering conflict of interest forms and statements, are properly completed, although these duties may be delegated to one or more coauthors. The corresponding author should be available throughout the submission and peer review process to respond to editorial queries in a timely way, and should be available after publication to respond to critiques of the work and cooperate with any requests from the journal for data or additional information should questions about the paper arise after publication. Although the corresponding author has primary responsibility for correspondence with the journal, the ICMJE recommends that editors send copies of all correspondence to all listed authors.

When a large multi-author group has conducted the work, the group ideally should decide who will be an author before the work is started and confirm who is an author before submitting the manuscript for publication. All members of the group named as authors should meet all four criteria for authorship, including approval of the final manuscript, and they should be able to take public responsibility for the work and should have full confidence in the accuracy and integrity of the work of other group authors. They will also be expected as individuals to complete conflict-of-interest disclosure forms.

Some large multi-author groups designate authorship by a group name, with or without the names of individuals. When submitting a manuscript authored by a group, the corresponding author should specify the group name if one exists, and clearly identify the group members who can take credit and responsibility for the work as authors. The byline of the article identifies who is directly responsible for the manuscript, and MEDLINE lists as authors whichever names appear on the byline. If the byline includes a group name, MEDLINE will list the names of individual group members who are authors or who are collaborators, sometimes called non-author contributors, if there is a note associated with the byline clearly stating that the individual names are elsewhere in the paper and whether those names are authors or collaborators.

Corresponding Author: In every round of edits, the corresponding author is responsible for verification of references, accuracy of statistical information as well as for checking the manuscript for grammar, spelling, syntax, language use, and adherence to CPHCM manuscript format guidelines and AMA Manual of Style format and style requirements.

Conflict of Interest (COI): A Conflict of Interest (COI) exists when an individual involved in the publication process (i.e., author, peer reviewer, or editor) has private interests (competing interests) that could unduly influence (or be reasonably seen to do so) his or her responsibilities in the publication process such that a reasonable observer might wonder if the individual's behavior or judgment was compromised. A COI could include 1) financial ties, 2) academic commitments, 3) personal relationships, 4) political or religious beliefs, or 5) institutional affiliations.

Other Contributors: All contributors who do not meet the criteria for authorship should be listed in the acknowledgements. Examples from the Uniform Requirements for Manuscripts Submitted to Biomedical Journals (ICMJE, 2010) of those who might be acknowledged include anyone who provided purely technical help, writing assistance, or a department chairperson who provided only

general support. If the authors received such assistance, they should disclose the identity of those individuals and the organization that supported their contributions. Written permission from those acknowledged should be obtained. Financial and material support should also be acknowledged.

Transfer Credit Policy

Fourteen course units are required for the MPH degree. Twelve course units must be taken at the University of Pennsylvania, with at least 10 course units taken in the public health program (PUBH). MPH students may request to transfer up to two graduate level credits from an accredited program outside the University. Courses taken on a pass/fail basis and courses taken more than three years ago will not be considered for transfer credit. Only courses in which the student received a grade of "B" (3.0) or better will be considered for transfer credit. Requests for transfer credit should be submitted to the MPH Associate Director, together with a course syllabus, course documents and other course items, as requested, for the course under consideration.

Requests for waivers of core courses or RTEs will be done on a case-by-case basis, as these decisions involve assessment of whether the CEPH requirements for Foundational Public Health Knowledge learning objectives and MPH Foundational Competencies can still be met through a combination of the transferred courses, other PUBH courses, and/or other educational activities.

Incoming MPH students that have completed a terminal degree within the last 5 years from their matriculation date from a related discipline may be eligible for 2 credit units (CU) toward their 14 CU MPH requirements as intellectual credit for post-professionals. The terminal degrees that will be considered include: MD, JD, PharmD, DVM, DMD, or PhD in a related field (determined by the MPH Program Director and/or Associate Director). If a student meets these criteria, they can submit a request for the 2 CU waiver. If this request is granted, the 2 CU's will count as elective credit toward their MPH coursework.

FINANCIAL INFORMATION

Academic Year 2021-2022

Gross tuition and fee costs are determined by the number of course units (CU's) students take per term. Courses taken in other schools of the University through the Master of Public Health degree program are billed at MPH rates. Tuition bills are mailed by the University's Office of Student Financial Services prior to the start of the academic term. Tuition is due upon receipt of bill. An unpaid balance of \$500 or more will prevent students from registering for the next semester. The current year's tuition schedule is as follows:

# CU's	Tuition	General Fee	Technical Fee
1 CU	\$4,654	\$442	\$182
2 CU	\$9,308	\$884	\$362
3 CU	\$13,962	\$1,776	\$546
4 CU	\$18,616	\$1,776	\$546

Description of Fees

General Fee: The amount of the general fee is based on the number of course units taken. The general fee enables the University to maintain essential facilities such as the library system, museums and institutes, special laboratories, the Student Health Service, Athletics, and Career Services.

Technical Fee: Students may be charged a technical fee for computing services such as access to computer labs and use of email accounts.

Clinical Fee: Full-time students (3 cu's or more) are required either to pay a separate Clinical Fee for access to the Student Health Service or to enroll in a health insurance plan that provides a capitated payment to the Student Health Service (i.e., the Penn Student Insurance Plan or a private plan that provides an equivalent capitated payment).

Note: Tuition and fees information for dual degree programs is different from the above and is posted on the dual degree programs' website. The Associate Director can answer questions related to the dual degree programs.

Financial Aid

Students interested in receiving financial aid can contact Student Financial Services (<http://www.sfs.upenn.edu/>). NOTE: In the School of Medicine, a financial aid package is not offered to students until they have committed to come to Penn and are entered into the Student Registration System. International students are not eligible for student loans.

Limited funding opportunities are offered through the MPH program. Matriculated students are provided with respective applications and notices for any opportunities via email. International students and employees have limited eligibility. The MPH program at Penn is a member of the Association of Schools and Programs of Public Health (ASPPH). All funding opportunities offered through ASPPH are open to matriculated students. ASPPH offers information on how to finance your graduate education here: <http://www.aspph.org/study/financing-your-degree/>.

ADMINISTRATIVE STRUCTURE

The MPH Program is based in the Perelman School of Medicine (PSOM), within the Center for Public Health Initiatives, a Provostial-level center. The MPH program has a dual reporting structure through the Associate Dean of PSOM Master's and Certificate Programs (PMCP) to the Office of the Executive Vice Dean and Chief Scientific Officer, and through the Director of the Center for Public Health Initiatives to the University Vice Provost for Research. The MPH is formally administered through the School of Medicine, which provides the program with office space, technical support, and an administrative budget, and confers the degree.

The MPH Program Director should be a Standing Faculty at the University at the rank of Associate or Full Professor. The Director shall have responsibility for administrative oversight and academic leadership of the program. The Director shall be a member of any standing committees and the Chairperson of the Steering Committee. At his or her discretion, the MPH Program Director may appoint a Co-Director to oversee the management of the program.

The **MPH Associate Director** reports to the **MPH Director** and is responsible for all MPH student-related activities, including meeting with prospective students, overseeing the admission process, academic advising, and ensuring completion of degree requirements. The Associate Director oversees the accreditation process, including record keeping, data monitoring, and reporting. The Associate Director coordinates with relevant Perelman School of Medicine staff and joint degree program staff to ensure cross-collaboration and joint degree offerings.

The **MPH Associate Director** oversees the following staff:

- **Community Outreach Program Manager**, whose responsibilities include MPH recruitment and Fieldwork Coordination
- **Administrative Coordinator**, whose responsibilities include student registration and admissions

The **Curriculum Committee** is responsible for developing and evaluating courses for the MPH program (review syllabi to ensure compliance with accreditation standards and reduce overlap), developing curricular policies (e.g., relating to transfer credits, course substitutions, approval of syllabi for both required courses and electives to be offered under the Public Health prefix), and review and update MPH tracks. The Curriculum Committee will include two current MPH students who will represent the student's view of the curriculum. In addition, an ad hoc subcommittee of the Curriculum Committee will also be asked to review non-PUBH courses for public health content.

The **Admissions Committee** will set policy for program eligibility and application requirements, review applications for admission, and make admissions decisions. It shall review all student applications to the MPH Degree Program and identify the most promising applicants who shall be offered a place in the program.

The **Student Advising Committee** is responsible for advising students on appropriate sequencing of courses and choice of electives. A subcommittee of the Student Advising Committee will also function as the **Academic Progressions Committee** to monitor the time-to-degree and academic progress of all MPH students.

The **Steering Committee** will be comprised of the Director and Co-directors, Associate Director, Executive and Deputy Director of CPHI, Chairs of the Admissions, Curriculum, and Student Advising Committees, as well as the MPH program coordinator, MPH fieldwork coordinator, and MPH Capstone directors. The committee meets quarterly to address program quality, growth, and program-level issues.

Student Organizations

The Penn Public Health Society (PPHS) is the MPH program's broad-based student organization. They work to foster student discourse and communication in public health arenas and take responsibility for organizing campus wide National Public Health Week activities. This organization facilitates networking and collaboration among public health students at Penn, in Philadelphia, and nationally through the American Public Health Association (APHA). Representatives from the student body are invited to sit on the standing committees of the Master of Public Health program as non-voting members. A faculty member is appointed as liaison for this group.

The Global Health Society (GHS) seeks to build awareness of and engagement in global health issues for all Masters of Public Health students, and particularly for the Global Health Track students. The goal of GHS is to increase opportunities for global health research and service, including fieldwork and Capstone opportunities. GHS also works to increase communication between the MPH program and the other schools and student groups at Penn that have international interest and reach.

The GHS is supported by the Global Health Track coordinators, Dr. Alison Buttenheim, PhD, MBA and Dr. Carol McLaughlin, MD, MPH, who bring a wealth of international experience and insight to the GHS.

Racial Equity Task Force (RETF) is a student-led task force that acts as an advocate of equity and justice for historically marginalized, disenfranchised, and oppressed students within the MPH program.

IMPORTANT DATES

The MPH Program, like many graduate-level programs, may follow a slightly different calendar than the standard University calendar. [You can find the Penn MPH Academic Calendar here!](#) Any changes will be sent electronically to all students and faculty, as well as posted on the MPH website.

For other University-level dates, you can visit the [3-Year Academic Calendar here](#). *Please note that some dates are slightly different. Always defer to the MPH Calendar!*

PENN SERVICES AND RESOURCES

Career Services

McNeil Building, Suite 20
<http://www.upenn.edu/careerservices>

Computing and Information Services (Med)

1300 Blockley Hall
Phone: 215-573-9185
<http://www.med.upenn.edu/infotech/>

Counseling and Psychological Services (CAPS)

133 South 36th Street
Phone: 215-573-8966
After Hours & Emergencies: 215-349-5490
<http://www.vpul.upenn.edu/caps/>

Graduate and Professional Student Assembly (GAPSA)

<http://gapsa.upenn.edu/>

Graduate Student Center

3615 Locust Walk
Phone: 215.746.6868
<http://www.upenn.edu/gsc/>

Weingarten Learning Resources Center

Office of Student Disability Services

3702 Spruce Street
Stouffer Commons, Suite 300
Phone: 215-573-9235
<http://www.vpul.upenn.edu/lrc/sds/>

Office of Learning Resources

3820 Locust Walk, Harnwell College House,
Suite 110
Phone: 215.573.9235
<http://dolphin.upenn.edu/~lrcenter/lr/lr.html>

Student Financial Services

100 Franklin Building
3451 Walnut Street
Phone: 215.898.1988
<http://www.sfs.upenn.edu/home/>

Student Health Services

Lower Level, Penn Tower Hotel
34th Street and Civic Center Boulevard
Phone: 215.349.5797
Appointments: 215.662.2852
Medical Records: 215.349.5370
Insurance and Immunization: 215.573.3523
Triage Nurse: 215.349.8245
<http://www.upenn.edu/shs/index.html>

Van Pelt Library

3420 Walnut Street
<http://www.library.upenn.edu>

Biomedical Library

36th and Hamilton Walk
<http://www.library.upenn.edu/biomed/>

Public Safety, Special Services*

4040 Chestnut Street
Phone: 215-573-3333 (emergencies)
215-898-7297 (general)
<https://www.publicsafety.upenn.edu>

*The Department of Special Services offers emotional support, guidance and options counseling to any individual who is a victim of a sensitive crime such as, rape, sexual assault, relationship or domestic violence, harassment and stalking.

NON-DISCRIMINATION STATEMENT

The University of Pennsylvania values diversity and seeks talented students, faculty and staff from diverse backgrounds. The University of Pennsylvania does not discriminate on the basis of race, color, sex, sexual orientation, gender identity, religion, creed, national or ethnic origin, citizenship status, age, disability, veteran status or any other legally protected class status in the administration of its admissions, financial aid, educational or athletic programs, or other University-administered programs or in its employment practices. Questions or complaints regarding this policy should be directed to the Executive Director of the Office of Affirmative Action and Equal Opportunity Programs, Sansom Place East, 3600 Chestnut Street, Suite 228, Philadelphia, PA 19104-6106; or (215) 898-6993 (Voice) or (215) 898-7803 (TDD).

APPENDICES

Appendix A. List of PUBH Courses

Appendix B. How to Make a Course Plan in the Generalist Track

Appendix C. Sample Student Course Matrix for the Generalist Track

Appendix D. How to Make a Course Plan in the Global Health Track

Appendix E. Sample Student Course Matrix for the Global Health Track

Appendix F. How to Make a Course Plan in the Environmental Health Track

Appendix G. Sample Student Course Matrix for the Environmental Health Track

Appendix H. How to Make a Course Plan in the One Health Track

Appendix I. Sample Student Course Matrix for the One Health Track

APPENDIX A. Course Listings

Master of Public Health program offers a curriculum leading to the Master of Public Health (MPH) degree on behalf of a university-wide collaboration involving the Schools of Arts and Sciences, Business (Wharton), Dental Medicine, Education, Nursing, Social Work, Veterinary Medicine, and Perelman School of Medicine. Both core and elective courses in this program are generally open to graduate students throughout the University with some exceptions. The public health course offerings are listed below.

Students are advised to always check the course and room roster listings with the registrar page when planning your course selections for the most up to date information each term.

Required Courses

PUBH 501 Introduction to Biostatistics. This course is designed to provide a broad overview of biostatistics methods as well as applications commonly used for public health research. Topics covered include measurement and categorizing variables, use and misuse of descriptive statistics, testing hypotheses, and applying commonly used statistical tests. An emphasis will be placed on the practical application of data to address public health issues, rather than theoretical and mathematical development. Students will learn how to choose and apply statistical tools to data sources, when and how statistical tools can be used to analyze data, and how to interpret others' quantitative studies. Students will gain experience using online datasets and the STATA statistical software package.

PUBH 502 Introduction to Principles and Methods of Epidemiology. Epidemiology is a combination of a subject matter science and research methodology. Introduction to Principles and Methods of Epidemiology focuses on the latter component. The course introduces the study designs applied to human populations, including randomized trials and four types of observational studies (cohort, case-control, cross-sectional, ecological). Because cause-and-effect relations are at the heart of epidemiologic research, numerous related topics are taught, including causal inference, and bias. There is a quantitative pre-test required for this course. This course is also listed as NURS 500.

PUBH 503 Environmental & Occupational Health. This course will provide a broad introduction to the scientific basis of occupational and environmental health. Content will address issues in the ambient, occupational and global environments as well as the tools, concepts and methods used in environmental health.

PUBH 504 Public Health Theories and Frameworks. Public health interventions and educational programs are most likely to have an impact on populations and communities when they are guided by a theory. Theories of health behavior help researchers, practitioners and participants identify targets and opportunities for change as well as methods for accomplishing change. This introductory course is intended to provide students with a solid foundation in behavioral and social science theory in the context of both, public health research and practice. The content of this course will provide exposure to a broad range of theories and frameworks commonly employed in the public health arena including issues related to the intersection of public health and human rights. These theories will be discussed using examples of their applications to numerous public health problems including, but not limited to, HIV/AIDS, violence, cancer, cardiovascular disease, obesity, diabetes, environmental hazards, and global health.

PUBH 505 Public Health Administration and Policy. This course is an introduction to health policy and management. It examines both the historical and current state of health policy in America and integrates these concepts within the context of public health practice. We will examine key concepts in understanding US health care organization, financing and delivery, our current political and economic debate on health

care reform, examining the role and management issues of public health departments, and case studies in public health policy and management.

PUBH 506 Methods for Public Health Practice. This course provides students with a foundation in public health practice methods with a focus on program planning. The course leads the student through the key phases of program planning from the identification of the public health problem, to assessing community needs, designing an intervention and planning for implementation and evaluation. Public health practice methods employed throughout the course include: locating evidence through a variety of search mechanisms; synthesizing the literature via literature reviews; collecting and assessing community data via qualitative research methods, surveys and geo-spatial mapping; and planning and pitching intervention ideas via data briefs, logic models, project narratives, and elevator speeches.

PUBH 507 Public Health Law and Ethics. Taking the right actions to protect and improve the public's health must be done in a societal context that defines what is legal, ethical, and good policy. This course introduces key concepts of legal, ethical, and policy analysis as applied to public health activities and initiatives. It demonstrates using current examples how these factors empower, guide, and constrain public health decision-making and actions.

PUBH 508 & 509 Capstone Seminar. (MPH students only) The Capstone is a culminating experience required for graduation in the Master of Public Health Program where MPH students apply their knowledge and skills to public health problems in a chosen area of interest under the guidance of a Capstone Mentor. All MPH Faculty and the majority of CPHI Fellows may be selected by an MPH student as a Capstone Mentor. Capstone Seminar instructors will assist each MPH student in the identification of an appropriate Capstone Mentor. Throughout 2 seminars, MPH students will engage their peers in scholarly discussion, drawing from relevant scientific literature and public health experience in order to begin to develop a common grounding and identity as public health professionals.

PUBH Electives*

*not a comprehensive list. Please see the registrar's website for the most up-to-date list.

www.upenn.edu/registrar

PUBH 500 Foundations of Public Health. This course will provide a topical overview of the inter-disciplinary field of public health and provides grounding in the public health paradigm. Through a series of lectures and recitation sessions, students will learn about the history of public health and the core public health sciences including behavioral and social sciences, biostatistics, epidemiology, environmental health, and policy and management. Other topics include ethics in public health, context analyses (specifically sociographic mapping and urban health), community participation in research, public health promotion, and the prevention of chronic and infectious diseases. This course is ideal for non-matriculated students who are exploring public health as a career option.

PUBH 514 Experiential Learning in Environmental and Occupational Health. This course seeks to develop students' ability to analyze and understand environmental and occupational health concepts, and identify and synthesize policy and practice solutions to the world's most pressing environmental and occupational health issues. This course provides an introduction to environmental and occupational health concepts, with a focus on public health policy and practice at the local, state and federal levels. In-class lecture content includes tools, concepts and research methods to examine categories of environmental and occupational risks and associated health conditions, and identify and develop solutions. Out-of-class experiences (3 per student, over the course of the semester) provide the opportunity to learn directly from experts in a variety of related fields, and gain first-hand experience in environmental and occupational health practice.

PUBH 517 Geography and Health. Geography and physical and social environments have profound effects on public health. Through this class, students will gain a conceptual understanding of: (1) how geography and health are related; (2) how the public health toolbox, including geographic information systems (GIS), can be used to study the places people live, work, and play and how these places either add to or detract from their health. This class will combine lectures and discussions of readings, presentations demonstrating how geographic methods can be used to address public health issues, and hands-on computer or small group activities. Students will learn based on a multidisciplinary framework that stresses the connections between various fields including public health, epidemiology, medicine, city planning, and the social sciences.

PUBH 519 Foundations of Global Health. This course presents issues in global health from the viewpoint of many different disciplines, with emphasis on economically less developed countries. Subjects include: recent history of global health; demography and population projections; global water shortage; food supplies and the green revolution; environmental health; measures of disease burden; social determinants of health; literacy and health; health manpower and capacity development; ethical relativism and cultural norms; women's rights and women's health; setting priorities in health; primary health care systems; community health programs in low resource settings; harm reduction and behavioral modification; international organizations funding global health; selected communicable diseases; AIDS and HIV prevention; zoonotic infectious diseases and emerging infectious diseases; malaria; vaccines; selected non-communicable diseases; reproductive health; tobacco-associated disease and its control; the nutritional transition; injuries and their prevention.

PUBH 521 Program Evaluation. There are many public health programs developed to promote change and improve individual and community health. The question most funders and organizations have for public health programs is: Did it work? And how do we know? This course is designed to review the practices of evaluation planning and methods of measurement. Students learn how evaluation can provide practical tools for identifying public health problems, program development, program implementation, including taking a reflective practice approach, ensuring equity and fairness in program delivery (i.e., combating disparities), and generally promoting public health through effective and efficient programmatic efforts. Prerequisite: PUBH506 or equivalent.

PUBH 523: Epidemics: Social causes and consequences of outbreaks, emergencies, threats. Public health demands both critical thinking and quick decision-making—often without the benefit of all the data we desire. Take this course to learn how other public health professionals (and lawyers/doctors/activists/educators/policymakers) have responded, both successfully and disastrously, to evolving health threats. Using a case-based method, the course will probe true public health emergencies, considering the (limits of) information available to scientists; the public response; political/economic considerations; media coverage; policy/programmatic response; and health/social outcomes. The course will tackle cases from infectious disease and social epidemiology, and will cover: outbreak investigation, lay epidemiology, surveillance and rapid response, and strategies to address the social determinants of health, including poverty/SES and racism. Students in the class will develop key skills in critical epidemiological reasoning and public health action.

PUBH 525 Health and Human Rights. This course will explore the interplay between health and human rights and enable students to critically apply human rights to public health practice. We will explore the development of health as a human right and how public health research and policy can affect human rights. Students will learn about core human rights principles and mechanisms and the international development agenda. The class will examine topics at the intersection of global health and human rights including health in conflict settings, HIV/AIDS, harm reduction, sexual and reproductive health, and climate change. Class material will primarily focus on public health challenges in the global south; however, we will also discuss health and human rights issues faced by vulnerable populations in the United States.

PUBH 529 Public Health Perspectives on Sexual and Reproductive Health. This course will survey of a range of key current and historic topics in family planning nationally and internationally. Policy, epidemiology, clinical practice, advocacy, and service delivery topics will be covered through presentations and conversations with leaders in the field of reproductive health. The course will provide students with a broad general introduction to family planning which is appropriate for those interested in either public health or clinical aspects of the field. For students who wish to pursue a focused career in this area this course is a necessary introduction while students who will be working in related areas of public health will have a broad general understanding of family planning. Students will participate through an interactive seminar style and will prepare an oral presentation on a relevant topic of their choice.

PUBH 531 Public Health Nutrition. This course is designed to introduce students to the core concepts, policies and practice of public health nutrition. The course will draw upon real world examples of local, national and global initiatives to decrease risk of chronic diseases related to the World Health Organization's (WHO) major nutrition-related chronic diseases (i.e. Type 2 diabetes, Cardiovascular disease, Iron deficiency anemia, Osteoporosis, Dental disease and Cancer). Throughout the course, instructors will present on special topics related to public health nutrition. The course is broken into three units: Overview of Nutrition Science and Public Health Nutrition, Nutritional Data and Assessment Techniques, and Public Health Nutrition in Practice.

PUBH 551 Global Health Policy. This participatory, interdisciplinary seminar course examines contemporary issues in global health policy and delivery. Students will develop skills in policy analysis, development of evidence-based policy, and effective delivery of global health interventions. The class will explore the health delivery and policy process using a variety of contemporary global health case studies, which focus on content areas such as maternal health, HIV policy, global child health, family planning and medication access.

PUBH 553 The Science and Politics of Food. This course provides an introduction to the many forces that shape what we eat. These include psychological, political, biological, legal, economic, and social influences. We will discuss and critically evaluate scientific research on food policies designed to improve the world's diet. This course will have a strong focus on the communication of health information and issues of health disparities as they relate to food environments and food policies. In addition, course assignments, activities, and lectures are designed to develop skills related to critiquing research and communicating evidence-based opinions in a clear and compelling manner.

PUBH 565 Health Communication in the Digital Age. Health communication spans activities from in-person communication to technology based interventions and mass media campaigns. Health communication interventions are applied across a variety of health promotion and disease prevention activities. In this course, we will explore a variety of approaches to using communication strategies to improve individual and population health. The course will provide an introduction to the theory, design, and evaluation of health communication programs. We will review and critique several health communication interventions. The course will also include a special emphasis on new media and technology, as well as developing practical skills for developing health communication programs.

PUBH 570 Adolescent Health. This course examines the health and well-being of young people between 10 and 26 years of age in the United States, and the influence of systems and policy on the health of this important age group. The course includes an examination of adolescent and young adult (AYA) health and well-being within a life-course framework; biological, psychological, gender and sexual development between 10 and 26 years of age including issues specific to sexual minority youth; nutritional health and health policy; and reproductive health and health policy. We will examine the influence of systems (family, school, community, health care, public health) and policy on key AYA health issues using case studies in injury prevention (violence; motor vehicle crashes), obesity prevention, HIV testing and care, and access to

routine health care and reproductive health services.

PUBH 575 Intimate Partner Violence. Intimate partner violence (IPV), defined as physical, sexual or psychological harm imposed by a current or former intimate partner, is a public health problem leading to increased morbidity and mortality worldwide. The purpose of this course is to familiarize students with the definition, theories, dynamics, scope, consequences of, and interventions to prevent and address, violence among intimate partners. Through this course, students will gain insight into the epidemiology of IPV across the life course, including risk and protective factors and examine unique considerations for vulnerable populations.

PUBH 588 Leadership Skills in Community Health. Grounded in a social justice perspective, this inter-professional course aims to provide the medical/nursing/social policy and practice/ public health student with a foundational overview of the field of community health and leadership skills in public health advocacy. Based on an assets-based approach that draws upon the strengths of communities and their leaders this course provides a foundation for community-engagement skill building. The course emphasizes the development of skills and techniques to lead effective, collaborative, health-focused interventions for underserved populations. The major goal of this course is to form inter professional, well informed groups of students to partner with community agencies to address the issues they identify through a collaborative, ongoing process. At the completion of the semester, students and community partners will come together, present their work and plan for sustainability of projects.

PUBH 589 The Alzheimer's Crisis: why it happened and what we can do about it. Once upon a time, Alzheimer's disease was a rare disease, and then it became common, but soon thereafter, it turned into a crisis. What happened, and what do we need to do? This course will lead students to find the answers to this question, answers that are at the intersections of medicine, ethics, public policy, culture and health care. Topics covered include the histories of Alzheimer's disease and cognitive aging and their changing definitions, the concepts of cognition and function and how they are assessed, the contested science and practice of measuring the disease's prevalence and mortality, autonomy and capacity, risk and preventative factors for cognitive decline, the demography and economics of caregiving, and the creative public health initiatives and models of care that could reduce stigma, enhance cognition and maintain independence.

PUBH 604 Qualitative Methods. This elective course explores the theory, methods, ethics, and practicalities of qualitative research. In doing so, it builds on the research methodology learned through the MPH core curriculum (PUBH 506). The central goal of the course is to leave students prepared to lead their own qualitative projects, whether MPH capstones, other theses, or future research pursued after graduate education. Prerequisite: PUBH 506 or equivalent.

PUBH 605 Epidemiology and Control of Infectious Diseases. This course will focus on the application of epidemiological methods to the discovery, detection, and evaluation of infectious disease threats together with an evidence based assessment of the value of public health interventions intended to reduce prevalence and severity of disease in people. In-class assignments are intended to build skills in location, interpreting, assessing, and synthesizing evidence from the epidemiologic literature, with an emphasis on critical thinking, causal inference, and understanding bias and confounding.

PUBH 606 Interpreting Epi Literature to Inform and Influence. This course is designed for students interested in further exploration of epidemiologic methods and the challenge of establishing a causal relationship between exposure and outcome using an observational science. We will utilize case studies to address the application of epidemiologic data to specific issues of relevance to public health. The nature of observational data will be explored through these case studies and specific methodological challenges will be highlighted and examined. We will look at the ways in which epidemiologic data is used in the media, how complex data can be misrepresented and become accepted as reality, and the challenges of turning

such messages around, once established. Additionally, we will examine how epidemiologic data is used in public policy debates. Finally, we will see how epidemiologic data is used in the court of law and explore the intersection of observational science and the rules around establishing causality in a legal setting. Prerequisite: PUBH502 or equivalent.

PUBH 607 Advanced Local Public Health Policymaking. Building on PUBH 505 (Public Health Administration and Policy) and PUBH 507 (Public Health Law and Ethics), this advanced, experiential course is designed to simulate the local public health policymaking process. Students will learn how to draft ordinances or regulations, prepare written testimony, and develop advocacy fact sheets. The goal of the course is to prepare students to participate meaningfully in policymaking during their careers, regardless of whether or not they plan to work directly in policy.

PUBH 608 Behavioral Economics. Behavioral economics, a field at the intersection of psychology and economics, suggests that humans rarely behave rationally when making health-related decisions. Instead, a collection of fundamental psychological forces—including cognitive biases, mental shortcuts, and inconsistent time preferences—lead us to act against our best interest (and sometimes the interests of our patients, family members, or communities that we care for.) Over the past decade, behavioral economics has been embraced by clinical and policy researchers eager to use these theoretical insights to help people make better health-related choices through strategically deployed financial incentives, choice architecture, framing, and social pressure. The course will take a very pragmatic, hands-on orientation to behavioral economics and health research and practice. Prerequisites: None. Students will gain the most from this course if they have already taken or are co-enrolled in PUBH502, PUBH504, and PUBH506 or equivalent courses.

PUBH 610 Mathematical Modeling of Infectious Disease. This elective course provides students with the opportunity to construct models of the transmission of infectious diseases and to use these models to plan or compare disease control strategies. The course is predicated upon the notion that the act of building a mathematical model of disease transmission is often the very best way of understanding what is going on. This understanding will be further refined by the examination of more complicated and sophisticated model structures as they appear in the recent published literature. Prerequisite: PUBH 502 or equivalent.

PUBH 637 Advocacy and Public Health. This course is designed to provide the foundational context and practical skills necessary to effectively advocate for evidence-based policy change in furtherance of public health objectives. The class will be interactive in nature and will require participation in public health advocacy exercises in order to hone advocacy skills. There will also be a focus on persuasive communication, both oral and written. We will explore the entire advocacy process from the identification of a problem and evaluation of possible policy solutions to utilizing the full range of advocacy tools to promote policy change. Prerequisite: PUBH505 or equivalent.

APPENDIX B.

HOW TO MAKE A COURSE PLAN IN THE GENERALIST TRACK

The generalist track is the most flexible track for the MPH degree. In conjunction with their Academic Advisors, students choose an individualized course plan. As with all other tracks, Generalist track students must take all seven core courses and two capstone seminars. It is the choice of their electives that makes the Generalist track unique.

Of the five total electives required for the MPH degree, at least two must have a PUBH prefix. The other three could be PUBH courses or they could come from graduate level courses across the University, provided that they have sufficient public health content and focus, as determined by the MPH Course Curriculum Committee.

Importantly, all generalist track students must take at least one Required Track Elective (RTE), but they are encouraged to take more as needed. The Generalist Track has ten PUBH courses that count as RTEs. Some of the electives have core courses as pre-requisites; thus, planning needs to start at the first semester.

Prior to thinking about their courses, students should ask themselves the following questions:

- i. What do you want to do with your MPH degree once you've graduated?
- ii. What Generalist track competencies will give you the skills to do this?
- iii. What Capstone project (i.e. Integrated Learning Experience) will give you the opportunity to practice these skills?

With the answers to those three questions, the student and Academic Advisory can then start to plan courses and choose electives. Because of the flexibility of the program, with core courses offered at least every fall and spring and a wide choice of RTEs and electives, students have the ability to change emphases.

There are 23 Generalist Track competencies that are distributed among 10 PUBH courses. In other words, not all competencies are in every course.

The 23 Generalist Track competencies are:

1. Critically synthesize the public health research and practice literature for a selected public health topic
2. Assess the reliability and validity of research methods
3. Assess epidemiological study types using the hierarchy of evidence
4. Critically evaluate the strengths and limitations of epidemiologic studies
5. Develop written and oral policy communications to influence decision-makers
6. Determine factors influencing successful policy implementation
7. Evaluate the role of government & financing in shaping policy and health outcomes
8. Analyze the geographic and demographic distribution of diseases in the U.S. and globally
9. Identify mitigation strategies for regional, national and global diseases
10. Apply skills in evaluation design and implementation to evaluate public health programs
11. Assess the ways in which disparities affect the health of a population
12. Create an advocacy campaign for a community organization, keeping in mind organizational considerations, constituents, targets, and long-term goals
13. Apply knowledge and awareness of community needs to develop recommendations for effective community-level public health interventions or local policy changes
14. Develop a budget for a public health program
15. Identify funding sources for public health programs and construct a grant proposal

16. Identify core concepts from behavioral science and behavioral economics and their relevance for public health programs
17. Identify and critically evaluate effective health-related behavior change strategies.
18. Create a deterministic model of the transmission and control of an infectious disease, including the model equations, the formula for reproduction ratio, and derivation step
19. Discuss of the advantages and disadvantages of agent-based models compared to deterministic models of disease transmission
20. Describe the use of agent-based models to evaluate public health interventions for the control of infectious diseases – Written report on an agent based, spatial stochastic model, or network model
21. Create a codebook and use it to conduct a thematic analysis of qualitative data such as interview transcripts and/or observation notes
22. Apply awareness of research ethics and participant relationships when conducting interviews or observations at the individual or community level
23. Develop novel explanatory theories to answer research questions based on analysis of qualitative data

These 23 competencies can be found in 10 RTEs, each of which provides depth in terms of content and/or methodology. Listed below are the 10 RTEs, along with any pre-requisites.

PUBH519: Foundations of Global Health

PUBH521: Program Evaluation

Required PUBH506 (Public Health Methods)

PUBH588: Leadership Skills in Community Health

PUBH604: Qualitative Research in Public Health

Required PUBH506 (Public Health Methods)

PUBH605: Epidemiology of Infectious Disease

Required PUBH502 (Epidemiology)

PUBH606: Synthesis & Translation of Epidemiology Literature

Required PUBH502 (Epidemiology)

PUBH607: Advanced Local Public Health Policymaking

Required PUBH505 (Policy & Administration) and PUBH507 (PH Law and Ethics)

PUBH608: Behavioral Economics and Health

Recommended PUBH502 (Epidemiology), PUBH504 (Theories and Behavior), PUBH506 (Public Health Methods)

PUBH610: Mathematical Models for the Control of Infectious Diseases

Required PUBH502 Epidemiology

PUBH637: Advocacy and Public Health

Required PUBH505 (Policy & Administration) and PUBH507 (PH Law and Ethics)

Another way to look at these competencies is to see how they are sorted into the 10 RTEs, as seen in the Generalist Track Competency Grid.

TRACK COMPETENCIES	PUBH 519	PUBH 521	PUBH 588	PUBH 604	PUBH 605	PUBH 606	PUBH 607	PUBH 608	PUBH 610	PUBH 637
1. Critically synthesize the public health research and practice literature for a selected public health topic	X		X	X	X	X	X	X	X	X
2. Assess the reliability and validity of research methods		X		X	X	X		X		
3. Assess epidemiological study types using the hierarchy of evidence					X	X		X		
4. Critically evaluate the strengths and limitations of epidemiologic studies					X	X				

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5. Develop written and oral policy communications to influence decision-makers							X			X
6. Determine factors influencing successful policy implementation						X	X			X
7. Evaluate the role of government & financing in shaping policy and health outcomes	X		X				X			X
8. Analyze the geographic and demographic distribution of diseases in the U.S. and globally	X				X					
9. Identify mitigation strategies for regional, national and global diseases	X				X				X	
10. Apply skills in evaluation design and implementation to evaluate public health programs		X								
11. Assess the ways in which disparities affect the health of a population	X	X	X							
12. Create an advocacy campaign for a community organization, keeping in mind organizational considerations, constituents, targets, and long-term goals			X							X
13. Apply knowledge and awareness of community needs to develop recommendations for effective community-level public health interventions or local policy changes			X				X			
14. Develop a budget for a public health program		X								
15. Identify funding sources for public health programs and construct a grant proposal		X								
16. Identify core concepts from behavioral science and behavioral economics and their relevance for public health programs								X		
17. Identify and critically evaluate effective health-related behavior change strategies.								X		
18. Create a deterministic model of the transmission and control of an infectious disease, including the model equations, the formula for reproduction ratio, and derivation step									X	
19. Discuss of the advantages and disadvantages of agent-based models compared to deterministic models of disease transmission									X	
20. Describe the use of agent-based models to evaluate public health interventions for the control of infectious diseases – Written report on an agent based, spatial stochastic model, or network model									X	
21. Create a codebook and use it to conduct a thematic analysis of qualitative data such as interview transcripts and/or observation notes				X						
22. Apply awareness of research ethics and participant relationships when conducting interviews or observations at the individual or community level				X						

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23. Develop novel explanatory theories to answer research questions based on analysis of qualitative data				X						
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Once you have chosen your first RTE, the next questions would emphasize what public health content areas are of current interest to the student. Given those topic areas, what electives – either RTEs, PUBH prefix electives, or University-wide electives – will best fit with these interests?

Perhaps the easiest way to understand this process is through some examples.

Student A is interested in working for a local non-profit that develops community-based programs. Based on that, the Academic Advisor would recommend the following two RTEs: PUBH521 (Program Evaluation) and PUBH588 (Leadership Skills in Community Health). We would likely recommend the student takes at least one course from the Masters in Nonprofit Leadership, as well as additional electives in the content area of interest. Because PUBH521 requires PUBH506, we would recommend that students take PUBH506 in their first semester as an MPH student.

Student B is interested in working as an epidemiologist for a State or Local health department. The recommended RTEs would be PUBH605 (Epidemiology of Infectious Disease) and PUBH606 (Synthesis & Translation of Epidemiology Literature). We would likely recommend that the student consider PUBH610 (Mathematical Modeling of Infectious Disease), as well as electives in the Epidemiology PhD program. For this student, we would recommend taking PUBH501 (Biostatistics) and PUBH502 (Epidemiology) early in their degree.

Student C is interested in public health advocacy and policymaking. The recommended RTEs would be PUBH607 (Advanced Local Public Health Policymaking) and PUBH637 (Advocacy and Public Health). Additional electives would depend on their content area of interest. For this student, we would recommend taking PUBH505 (Policy & Administration) and PUBH507 (Public Health Law and Ethics) early in their degree.

APPENDIX C. SAMPLE STUDENT MATRIX

GENERALIST TRACK PLAN OF STUDY

Student: _____

Advisor: _____

Core Courses:

- ___ PUBH501: Introduction to Biostatistics
- ___ PUBH502: Introduction to Principles and Methods of Epidemiology
- ___ PUBH503: Environmental & Occupational Health
- ___ PUBH504: Public Health Theories & Frameworks
- ___ PUBH505: Policy Health Administration & Policy
- ___ PUBH506: Methods for Public Health Practice
- ___ PUBH507: Public Health Law & Ethics
- ___ PUBH508: Capstone Seminar 1
- ___ PUBH509: Capstone Seminar 2

Required Track Electives (RTEs): Check all that apply

- ___ PUBH519: Foundations of Global Health
- ___ PUBH521: Program Evaluation
- ___ PUBH588: Leadership Skills in Community Health
- ___ PUBH604: Qualitative Research in Public Health
- ___ PUBH605: Epidemiology of Infectious Disease
- ___ PUBH606: Synthesis & Translation of Epidemiology Literature
- ___ PUBH607: Advanced Local Public Health Policymaking
- ___ PUBH608: Behavioral Economics and Health
- ___ PUBH610: Mathematical Models for the Control of Infectious Diseases
- ___ PUBH637: Advocacy and Public Health

Additional Electives (as necessary):

- ___
- ___
- ___
- ___

HIGHLIGHT RELEVANT COMPETENCIES FROM REQUIRED TRACK ELECTIVES:

TABLE D4. GENERALIST TRACK*	
Competency	Course number(s) and name(s)
1. Critically synthesize the public health research and practice literature for a selected public health topic	PUBH 519 – Foundations of Global Health
	PUBH 588 – Leadership Skills in Community Health
	PUBH 604 – Qualitative Research in Public Health
	PUBH 605 – Epidemiology and Control of Infectious Diseases
	PUBH 606 – Synthesis & Translation of Epi Literature

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	PUBH 607 – Advanced Local Public Health Policymaking
	PUBH 608 – Behavioral Economics
	PUBH 610 - Mathematical Models for the Control of Infectious Diseases
	PUBH 637 – Advocacy & Public Health
2. Assess the reliability and validity of research methods	PUBH 521 – Program Evaluation
	PUBH 604 – Qualitative Research in Public Health
	PUBH 605 – Epidemiology and Control of Infectious Diseases
	PUBH 606 – Synthesis & Translation of Epi Literature
	PUBH 608 – Behavioral Economics
3. Assess epidemiological study types using the hierarchy of evidence	PUBH 605 – Epidemiology of Infectious Diseases
	PUBH 606 – Synthesis & Translation of Epi Literature
	PUBH 608 – Behavioral Economics
4. Critically evaluate the strengths and limitations of epidemiological studies	PUBH 605 – Epidemiology and Control of Infectious Diseases
	PUBH 606 – Synthesis & Translation of Epi Literature
5. Develop written and oral policy communications to influence decision-makers	PUBH 607 – Advanced Local Public Health Policymaking
	PUBH 637 – Advocacy & Public Health
6. Determine factors influencing successful policy implementation	PUBH 606 – Synthesis & Translation of Epi Literature
	PUBH 607 – Advanced Local Public Health Policymaking
	PUBH 637 – Advocacy & Public Health
7. Evaluate the role of government and financing in shaping health policy and health outcomes	PUBH 519 – Foundations of Global Health
	PUBH 588 – Leadership Skills in Community Health
	PUBH 607 – Advanced Local Public Health Policymaking
	PUBH 637 – Advocacy & Public Health
8. Analyze the geographic and demographic distribution of diseases in the U.S. and globally	PUBH 519 – Foundations of Global Health
	PUBH 605 – Epidemiology and Control of Infectious Diseases
9. Identify mitigation strategies for regional, national and global diseases	PUBH 519 – Foundations of Global Health
	PUBH 605 – Epidemiology and Control of Infectious Diseases
	PUBH 610 - Mathematical Models for the Control of Infectious Diseases
10. Apply skills in evaluation design and implementation to public health programs	PUBH 521 – Program Evaluation
11. Assess the ways in which disparities affect the health status of populations	PUBH 519 – Foundations of Global Health
	PUBH 521 – Program Evaluation
	PUBH 588 – Leadership Skills in Community Health
12. Create an advocacy campaign for an organization, keeping in mind organizational considerations, constituents, targets, and long-term goals	PUBH 588 – Leadership Skills in Community Health
	PUBH 637 – Advocacy & Public Health
13. Apply knowledge and awareness of community needs to develop recommendations for effective community-level public health interventions or local policy changes	PUBH 588 – Leadership Skills in Community Health
	PUBH 607 – Advanced Local Public Health Policymaking
14. Develop a budget for a public health program	PUBH 521 – Program Evaluation

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15. Identify funding sources for public health programs and construct a grant proposal	PUBH 521 – Program Evaluation
16. Identify core concepts from behavioral science and behavioral economics and their relevance for public health programs	PUBH 608 – Behavioral Economics
17. Identify and critically evaluate effective health-related behavior change strategies	PUBH 608 – Behavioral Econ
18. Create a deterministic model of the transmission and control of an infectious disease, including the model equations, the formula for reproduction ratio, and derivation step	PUBH 610 - Mathematical Models for the Control of Infectious Diseases
19. Discuss of the advantages and disadvantages of agent-based models compared to deterministic models of disease transmission	PUBH 610 - Mathematical Models for the Control of Infectious Diseases
20. Describe the use of agent-based models to evaluate public health interventions for the control of infectious diseases	PUBH 610 - Mathematical Models for the Control of Infectious Diseases
21. Create a codebook and use it to conduct a thematic analysis of qualitative data such as interview transcripts and/or observation notes	PUBH 604 – Qualitative Research in Public Health
22. Apply awareness of research ethics and participant relationships when conducting interviews or observations at the individual or community level	PUBH 604 – Qualitative Research in Public Health
23. Develop novel explanatory theories to answer research questions based on analysis of qualitative data	PUBH 604 – Qualitative Research in Public Health

****Please see course syllabi for specific assessments.***

APPENDIX D.

HOW TO MAKE A COURSE PLAN IN THE GLOBAL HEALTH TRACK

The Global Health track gives students depth in the theory and practice of global health. In conjunction with their Academic Advisors, students choose an individualized course plan. As with all other tracks, Global Health track students must take all seven core courses and two capstone seminars. It is the choice of their electives, and how that applies to their capstone and fieldwork, that makes the Global Health track unique.

Of the five total electives required for the MPH degree, at least two must have a PUBH prefix. The other three could be PUBH courses or they could come from graduate level courses across the University, provided that they have sufficient public health content and focus, as determined by the MPH Course Curriculum Committee.

Importantly, all Global Health track students must take at least one Required Track Elective (RTE), but they are encouraged to take more as needed. The Global Health Track has three PUBH courses that count as RTEs. These courses include: PUBH519 (Foundations in Global Health), PUBH525 (Health and Human Rights), and PUBH551 (Global Health Policy). All three courses have the same track competencies:

1. Evaluate interventions, programs, policies, or health care systems in international settings or global health context
2. Develop a policy or program plan to decrease health disparities or inequity and improve population health in a global setting
3. Examine global health issues through the lens of the social determinants of health or human rights principles
4. Apply the principles of cultural competence when discussing public health in a global or international setting
5. Analyze the roles, relationships, and resources of the entities influencing global health

Where they differ is in content, with PUBH519 focusing more on health outcomes, PUBH525 more on human rights, and PUBH551 more on policy.

In addition to the RTE, Global Health students must also take two electives from a list of approved global health electives, listed [here](#). Note that all three RTEs are included in this list, so Global Health track students could end up taking all three RTEs for electives.

Prior to thinking about their courses, students should ask themselves the following questions:

- i. What do you want to do with your MPH degree once you've graduated?
- ii. What Global Health RTEs will give you the skills to do this?
- iii. What Capstone project (i.e. Integrated Learning Experience) will give you the opportunity to practice these skills?

With the answers to those three questions, the student and Academic Advisory can then start to plan courses and choose electives. Because of the flexibility of the program, with core courses offered at least every fall and spring and a wide choice of RTEs and electives, students have the ability to change emphases.

Perhaps the easiest way to understand this process is through some examples.

Student A is interested in working for a global non-profit that develops community-based programs. Based on that, the Academic Advisor would recommend PUBH551 (Global Health Policy) as the RTE. For additional electives, the recommendation would likely be another RTE - PUBH519 (Foundations in Global Health) - and either PUBH521 (Program Evaluation) or PUBH588 (Leadership Skills in Community Health). We would likely recommend the student takes at least one course from the Masters in Nonprofit Leadership. Because

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PUBH521 requires PUBH506, we would recommend that students take PUBH506 in their first semester as an MPH student.

Student B is interested in international human rights and hopes to work for an NGO that helps with women's reproductive rights. Based on that, the Academic Advisor would recommend PUBH525 (Health and Human Rights) as the RTE. For additional electives, the recommendation would likely be another RTE – PUBH519 (Foundations in Global Health), as that offers a broad overview from different regions of the world. We would also recommend PUBH529 (Public Health Perspectives on Sexual and Reproductive Rights).

APPENDIX E. Sample Student Matrix

GLOBAL HEALTH PLAN OF STUDY

Student: _____

Advisor: _____

Core Courses:

- ___ PUBH501: Introduction to Biostatistics
- ___ PUBH502: Introduction to Principles and Methods of Epidemiology
- ___ PUBH503: Environmental & Occupational Health
- ___ PUBH504: Public Health Theories & Frameworks
- ___ PUBH505: Policy Health Administration & Policy
- ___ PUBH506: Methods for Public Health Practice
- ___ PUBH507: Public Health Law & Ethics
- ___ PUBH508: Capstone Seminar 1
- ___ PUBH509: Capstone Seminar 2

Required Track Electives (RTEs): Check all that apply.

- ___ PUBH519: Foundations of Global Health
- ___ PUBH525: Health and Human Rights
- ___ PUBH551: Global Health Policy

Additional Electives (as necessary):

HIGHLIGHT RELEVANT COMPETENCIES FROM REQUIRED TRACK ELECTIVES:

TABLE D4. GLOBAL HEALTH TRACK*	
Competency	Course number(s) and name(s)
1. Evaluate interventions, programs, policies, or health care systems in international settings or global health context	PUBH 519 – Foundations of Global Health
	PUBH 525 – Health and Human Rights
	PUBH 551 – Global Health Policy
2. Analyze the burden of disease in a country or region outside the U.S.	PUBH 519 – Foundations of Global Health
	PUBH 551 – Global Health Policy
3. Examine global health issues through the lens of the social determinants of health or human rights principles	PUBH 519 – Foundations of Global Health
	PUBH 525 – Health and Human Rights
	PUBH 551 – Global Health Policy
4. Apply the principles of cultural competence when discussing public health in a global or international setting	PUBH 519 – Foundations of Global Health
	PUBH 525 – Health and Human Rights
	PUBH 551 – Global Health Policy
5. Analyze the roles, relationships, and resources of the entities influencing global health	PUBH 519 – Foundations of Global Health
	PUBH 525 – Health and Human Rights
	PUBH 551 – Global Health Policy

6. Analyze core global human rights principles

PUBH 525 – Health and Human Rights

**Please see course syllabi for specific assessments.*

APPENDIX F.

HOW TO MAKE A COURSE PLAN IN THE ENVIRONMENTAL HEALTH TRACK

The Environmental Health track gives students a focus on the environment, broadened to include both the social and built environmental. In conjunction with their Academic Advisors, students choose an individualized course plan. As with all other tracks, Environmental Health track students must take all seven core courses and two capstone seminars. It is the choice of their electives, and how that applies to their capstone and fieldwork, that makes the Environmental Health track unique.

Of the five total electives required for the MPH degree, at least two must have a PUBH prefix. The other three could be PUBH courses or they could come from graduate level courses across the University, provided that they have sufficient public health content and focus, as determined by the MPH Course Curriculum Committee.

Importantly, all Environmental Health track students must take at least one Required Track Elective (RTE), but they are encouraged to take more as needed. The Environmental Health Track has three PUBH courses that count as RTEs. These courses include: PUBH512 (Experiential Learning in Environmental Health), PUBH517 (Geography and Health), and PUBH523 (Epidemics, Emergencies, and Environment).

Prior to thinking about their courses, students should ask themselves the following questions:

- i. What do you want to do with your MPH degree once you’ve graduated?
- ii. What Environmental Health RTEs will give you the skills to do this?
- iii. What Capstone project (i.e. Integrated Learning Experience) will give you the opportunity to practice these skills?

With the answers to those three questions, the student and Academic Advisory can then start to plan courses and choose electives. Because of the flexibility of the program, with core courses offered at least every fall and spring and a wide choice of RTEs and electives, students have the ability to change emphases.

There are 8 Environmental Health competencies that are distributed over the 3 RTEs. The 8 competencies are:

1. Describe how climate and geography impact human health
2. Analyze the effects of the built environment on a population’s health
3. Discuss the concept of environmental justice in various settings
4. Specify approaches for assessing, preventing, or controlling environmental hazards that pose risks to human health
5. Describe the use of geographic information systems in the context of public health
6. Apply Geographic information systems (GIS) methods to the breadth of settings in public health practice
7. Use spatial epidemiology to compare how the built environment changes over time
8. Analyze stakeholder involvement in the public health response to an environmental threat

The best way to look at these competencies is to see how they are sorted into the RTEs, as seen in this Environmental Health competency grid:

ENVIRONMENTAL HEALTH TRACK	REQUIRED TRACK ELECTIVES (RTE)
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TRACK COMPETENCIES	Experiential Learning in Environmental Health	Geography and Health	Epidemics, Emergencies, and Environmental Threats
1. Describe how climate and geography impact human health	X	X	X
2. Analyze the effects of the built environment on a population's health	X	X	X
3. Discuss the concept of environmental justice in various settings	X		X
4. Specify approaches for assessing, preventing, or controlling environmental hazards that pose risks to human health	X		X
5. Describe the use of geographic information systems in the context of public health		X	
6. Apply Geographic information systems (GIS) methods to the breadth of settings in public health practice		X	
7. Use spatial epidemiology to compare how the built environment changes over time		X	
8. Analyze stakeholder involvement in the public health response to an environmental threat	X		X

Perhaps the easiest way to understand the process of choosing courses is through some examples.

Student A is interested in working for a governmental or non-governmental organization on how climate change is impacting the health in different regions of the country. Based on that, the Academic Advisor would recommend PUBH517 (Geography and Health) as the RTE. For additional electives, the recommendation would include another RTE - PUBH523 (Epidemics, Emergencies, and Environmental Threats), which delves into the impact of several recent natural disasters caused by climate change. Additional electives would be recommended across the University in risk communication, urban design, etc.

Student B is interested in working at a community level to education the population about the dangers of lead pipes and paint and how to remediate this danger. Based on that, the Academic Advisor would recommend PUBH514 (Experiential Learning in Environmental Health) as the RTE. For additional electives, the recommendation would include PUBH588 (Leadership skill in Community Health), as well as additional electives across the University on water and urban design.

APPENDIX G. Sample Student Matrix

ENVIRONMENTAL HEALTH PLAN OF STUDY

Student: _____

Advisor: _____

Core Courses:

- ___ PUBH501: Introduction to Biostatistics
- ___ PUBH502: Introduction to Principles and Methods of Epidemiology
- ___ PUBH503: Environmental & Occupational Health
- ___ PUBH504: Public Health Theories & Frameworks
- ___ PUBH505: Policy Health Administration & Policy
- ___ PUBH506: Methods for Public Health Practice
- ___ PUBH507: Public Health Law & Ethics
- ___ PUBH508: Capstone Seminar 1
- ___ PUBH509: Capstone Seminar 2

Required Track Electives (RTEs): Check all that apply.

- ___ PUBH514: Experiential Learning in Environmental Health
- ___ PUBH517: Geography and Health
- ___ PUBH523: Epidemics, Emergencies, and Environmental Threats

Additional Electives (as necessary): *Please denote those that focus on Environmental Health*

HIGHLIGHT RELEVANT COMPETENCIES FROM REQUIRED TRACK ELECTIVES:

TABLE D4. ENVIRONMENTAL HEALTH TRACK*	
Competency	Course number(s) and name(s)
1. Describe how climate and geography impact human health	PUBH 514 – Experiential Learning in Environmental Health
	PUBH 517– Geography and Health
	PUBH 523 – Epidemics, Emergencies, and Environmental Threats
2. Analyze the effects of the built environment on a populations' health	PUBH 514 – Experiential Learning in Environmental Health
	PUBH 517 – Geography and Health
	PUBH 523 – Epidemics, Emergencies, and Environmental Threats
3. Discuss the concept of environmental justice in various settings	PUBH 514 – Experiential Learning in Environmental Health
	PUBH 523 – Epidemics, Emergencies, and Environmental Threats
4. Specify approaches for assessing, preventing, or controlling environmental hazards that pose risks to human health	PUBH 514 – Experiential Learning in Environmental Health

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	PUBH 523 – Epidemics, Emergencies, and Environmental Threats
5. Describe geographic information systems principles in the context of public health	PUBH 517 – Geography and Health
6. Apply geographic information systems (GIS) methods to the breadth of settings in public health practice	PUBH 517 – Geography and Health
7. Use spatial epidemiology to compare how the built environment changes over time	PUBH 517 – Geography and Health
8. Analyze stakeholder involvement in the public health response to an environmental threat	PUBH 514 – Experiential Learning in Environmental Health
	PUBH 523 – Epidemics, Emergencies, and Environmental Threats

**Please see course syllabi for specific assessments.*

APPENDIX H.

HOW TO MAKE A COURSE PLAN IN THE ONE HEALTH TRACK

The One Health track gives students a focus on One Health, defined as the intersection of animals, humans, and the environment. In conjunction with their Academic Advisors, students choose an individualized course plan. As with all other tracks, One Health track students must take all seven core courses and two capstone seminars. It is the choice of their electives, and how that applies to their capstone and fieldwork, that makes the One Health track unique.

Students in the One Health Track must take VPTH550 (One Health Study Design). In addition, they must choose at least one from the following list of Required Track Electives: PUBH531 (Public Health Nutrition), PUH553 (Science and Politics of Food), VMED607 (Veterinary Public Health), VMED619 (Emerging Exotic Diseases), and VSCN657 (One Health & Global Food Security).

Of their remaining three electives, at least one must have a PUBH prefix. The other two could be PUBH courses or they could come from graduate level courses across the University, provided that they have sufficient public health content and focus, as determined by the MPH Course Curriculum Committee.

Prior to thinking about their courses, students should ask themselves the following questions:

- iv. What do you want to do with your MPH degree once you've graduated?
- v. What One Health RTEs will give you the content and skills to do this?
- vi. What Capstone project (i.e. Integrated Learning Experience) will give you the opportunity to practice these skills?

With the answers to those three questions, the student and Academic Advisory can then start to plan courses and choose electives. Because of the flexibility of the program, with core courses offered at least every fall and spring and a wide choice of RTEs and electives, students have the ability to change emphases.

The required course for all One Health students - VPTH550 (One Health Study Design) – has three track competencies:

- Evaluate and integrate literature from across different disciplines to develop a thorough understanding of a One Health problem or topic
- Prepare a study proposal (i.e. grant) that incorporates the tenets of One Health (i.e. the COHERE guidelines)
- Design the ideal team of individual experts to investigate a One Health issue with a transdisciplinary approach

There are 8 additional competencies that are distributed over the 5 RTEs. The 8 competencies are:

- Critically evaluate scientific research on a food or nutrition policy
- Describe the complex factors (e.g. psychological, political, cultural, or economic) that influence what we eat
- Identify the critical drivers of disease emergence and possible impacts such emergence has on human, animal and environmental health
- Demonstrate the role of local, state, national and international agencies in controlling transboundary diseases of one-health importance
- Describe the range of effects that animal diseases (including those that are not zoonotic) can have on human health and confidence in government and agricultural systems
- Analyze the cultural, economic, health and welfare drivers of diverse stakeholders in response to an animal disease that has environmental and potentially human health consequences

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- Evaluate the role of livestock (poultry, dairy, beef, porcine, aquaculture) in sustainable food systems
- Describe the metrics associated with animal agriculture and climate change

The best way to look at these competencies is to see how they are sorted into the RTEs, as seen in this One Health competency grid:

One Health Track Courses and Grid:

Note: All students take VPTP550 and then choose at least one of the other five courses

	VPTH 550	PUBH 531	PUBH 553	VMED 619	VMED 607	VCSN 657
Evaluate and integrate literature from across different disciplines to develop a thorough understanding of a One Health problem or topic	X					
Design a study proposal that incorporates the tenets of One Health (i.e. the COHERE guidelines)	X					
Design the ideal team of individual experts to investigate a One Health issue with a transdisciplinary approach	X					
Critically evaluate scientific research on a food or nutrition policy		X	X			
Describe the complex factors (e.g. psychological, political, cultural, or economic) that influence what we eat		X	X			
Identify the critical drivers of disease emergence and possible impacts such emergence has on human, animal and environmental health				X		
Demonstrate the role of local, state, national and international agencies in controlling transboundary diseases of one-health importance				X		
Describe the range of effects that animal diseases (including those that are not zoonotic) can have on human health and confidence in government and agricultural systems					X	
Analyze the cultural, economic, health and welfare drivers of diverse stakeholders in response to an animal disease that has environmental and potentially human health consequences					X	
Evaluate the role of livestock (poultry, dairy, beef, porcine, aquaculture) in sustainable food systems						X

Describe the metrics associated with animal agriculture and climate change						X
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Perhaps the easiest way to understand the process of choosing courses is through some examples.

Student A is interested in the food industry and its impact on human health. In addition to VPTP550, the Academic Advisor would recommend choosing for an RTE either PUBH531 (Science and Politics of Food) or VCSN657 (One Health and Global Food Security), with a strong suggestion to take both. For additional electives, the recommendation would include additional electives across the University, including courses on hunger and nutrition.

Student B is interested in how the human-animal interface has increased the risk of zoonotic diseases. In addition to VPTP550, the Academic Advisor would recommend choosing for an RTE VMED619 (Emerging Exotic Diseases). For additional electives, the recommendation would include either VMED607 (Veterinary Public Health), PUBH605 (Epidemiology of Infectious Diseases), or PUBH610 (Mathematical Modeling of Infectious Diseases), with the choice being influenced by future plans after the MPH. Given that many zoonotic diseases start outside the United States, we might also recommend a Global Health course.

APPENDIX I. Sample Student Matrix

ONE HEALTH TRACK PLAN OF STUDY

Student: _____

Advisor: _____

Core Courses:

- ____ PUBH501: Introduction to Biostatistics
- ____ PUBH502: Introduction to Principles and Methods of Epidemiology
- ____ PUBH503: Environmental & Occupational Health
- ____ PUBH504: Public Health Theories & Frameworks
- ____ PUBH505: Policy Health Administration & Policy
- ____ PUBH506: Methods for Public Health Practice
- ____ PUBH507: Public Health Law & Ethics
- ____ PUBH508: Capstone Seminar 1
- ____ PUBH509: Capstone Seminar 2

Required Track Electives (RTEs) (check all that apply):

All students must take VPTH550 (One Health Study Design) and at least one of the other five courses

- ____ VPTH550: One Health Study Design
- ____ PUBH531: Public Health Nutrition
- ____ PUBH533: Science and Politics of Food
- ____ VMED607: Veterinary Public Health
- ____ VMED619: Emerging Exotic Diseases
- ____ VSCN657: One Health & Global Food Security

Additional Electives (as necessary):

HIGHLIGHT RELEVANT COMPETENCIES:

Note: All students take VPTP550 and then choose at least one of the other five courses.

TABLE D4. ONE HEALTH TRACK*	
Competency	Course number(s) and name(s)
1. Evaluate and integrate literature from across different disciplines to develop a thorough understanding of a One Health problem or topic	VPTH 550 – One Health Study Design
2. Prepare a study proposal (i.e. grant) that reflects your expertise and incorporates the tenets of One Health (i.e. the COHERE guidelines).	VPTH 550 – One Health Study Design
3. Design the ideal team of individual experts to investigate a One Health issue with a transdisciplinary approach.	VPTH 550 – One Health Study Design
4. Critically evaluate scientific research on a food or nutrition policy.	PUBH 531 – Public Health Nutrition
	PUBH 533 – Science and Politics of Food
5. Describe the complex factors (e.g. psychological, political, cultural, or economic) that influence what we eat.	PUBH 531 – Public Health Nutrition

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	PUBH 553 – Science and Politics of Food
6. Identify the critical drivers of disease emergence and possible impacts such emergence has on human, animal and environmental health.	VMED 619 – Emerging Exotic Diseases
7. Demonstrate the role of local, state, national and international agencies in controlling transboundary diseases of one-health importance.	VMED 619 – Emerging Exotic Diseases
8. Describe the range of effects that animal diseases (including those that are not zoonotic) can have on human health and confidence in government and agricultural systems.	VMED 607- Veterinary Public Health
9. Analyze the cultural, economic, health and welfare drivers of diverse stakeholders in response to an animal disease that has environmental and potentially human health consequences.	VMED 607- Veterinary Public Health
10. Evaluate the role of livestock (poultry, dairy, beef, porcine, aquaculture) in sustainable food systems	VCSN 657 – One Health & Global Food Security
11. Describe the metrics associated with animal agriculture and climate change	VCSN 657 – One Health & Global Food Security

****Please see course syllabi for specific assessments.***