

Environmental Health Sciences

School of Public Health

MPH degree only

2016-2017 MPH Student Guidebook

UNIVERSITY
OF MINNESOTA

**School of
Public Health**

Welcome to the University of Minnesota School of Public Health!

All students are responsible for knowing the rules and policies that govern their academic program. To this end, we are providing you with this guidebook which covers your specific academic program requirements. Please refer to it often.

Many Graduate School processes are in transition. Please stay in touch with your Program Coordinator as some paper processes will convert to electronic processes.

In addition, you are responsible for knowing University of Minnesota and School of Public Health policies and procedures that pertain to all students. Links to these policies and procedures can be found by clicking on the "Current Students" link at <http://www.sph.umn.edu/current/resources/>.

EnHS Student Mailboxes – 1215-1 Mayo Building

Student mailboxes are located in the interior hallway of Room 1215 in 1215-1 Mayo. Check your mailbox regularly for communication from faculty and accounting (important letters you may need to sign and return ASAP).

Division of Environmental Health Sciences

Administrative Contacts:

Division Head – Bruce Alexander, PhD	612-625-7934	(balex@umn.edu)
Director of Graduate Studies – Elizabeth Wattenberg, PhD	612 626.0184	(watte004@umn.edu)
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*Also known as Program Director

Our Mission

The primary mission of the Division of Environmental Health Sciences is to provide excellence in the education of environmental and occupational health professionals, in the conduct of research, and in the service to the people of the State of Minnesota and the world. These aims are achieved through:

Education: Masters' and doctoral education programs

Research: Research and scholarly activities

Service: Professional practice and service

Outreach: Continuing education, and outreach programs that include collaborative efforts with faculty in colleges throughout the university, and through collaboration with health care organizations, industry and government agencies.

The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation.

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A: Self-Assessment Report for Annual Review.

B. Resources for MPH, Competency Statement; More Options for Plan B MPH degree

C: Career Services

D: Graduation Checklist for MPH

1. Division of Environmental Health Services (EnHS)

1.1 Division Resources

Websites

EnHS websites for:

- [EnHS Division News and Events](#)
- Student Support Services Useful links (EnHS website)
- [EnHS Calendars](#)
- [Environmental Health Blog](#)
- [EnHS LinkedIn Group](#)
- [EnHS Faculty](#)

Academics:

- [MPH Program Curriculum](#) ; [MPH Study Plan](#)
- [Interdisciplinary Concentrations/Minor](#) (Health Disparities, Public Health Policy) available to MPH students only
- [Resources \(SPH and University wide\)](#)

Websites relevant to MS and PhD only

- [MS Program Curriculum](#)
- [PhD Program Curriculum](#)
- MS and PhD [Grad School Forms, Policies and Procedures](#)

Other important related websites for all:

- [All SPH Faculty Directory](#)
- [Career Services](#)
- [Resources](#)
- [SPH Course syllabi](#)
- [Questions about tuition and fees](#)
- [Immunization and immunization Holds](#)

Have news to share? Website questions or submissions should be sent to Joy Archibald at archi009@umn.edu OR post on facebook here:

Facebook search: [UMN SPH - Environmental Health Sciences](#) OR
Click: [UMN SPH - Environmental Health Sciences Facebook Page](#)

EnHS Student Mailboxes – 1215-1 Mayo Building

Student mailboxes are located in the interior hallway in 1215-1 Mayo. Students are expected to check mailboxes regularly for messages from faculty and staff. Faculty mailboxes are located on the left in room outside of 1150 Mayo.

EnHS Faculty Directory

Name	Title	E-Mail	Phone	Office
<u>Bruce Alexander, PhD</u> Env. and Occupational Epidemiology	Professor, Division Head, Director of UMASH	balex@umn.edu	625-7934	1260 Mayo
<u>Susan Arnold, PhD, CIH, FAIHA</u> Industrial Hygiene and Exposure Science and Sustainability Institute	Assistant Professor Industrial Hygiene	Arnol353@umn.edu	624-6222	1239 Mayo
<u>Silvia Balbo, PhD</u> Environmental Toxicology	Assistant Professor	balbo006@umn.edu	624-4240	2-145 CCRB
<u>Timothy Church, PhD, MS</u> Env. and Occupational Epidemiology	Professor	churc001@umn.edu	626-1494	1162 Mayo
<u>Matteo Convertino, PhD</u> Complex Systems Modeling–Trans-disciplinary	Assistant Professor Lab: HumNat	matteoc@umn.edu	624-0132	1132 Mayo
<u>Susan Gerberich, PhD, MS</u> Env. and Occupational Injury Epidemiology and Prevention	Professor, Director of MCOHS & ERC	gerbe001@umn.edu	625-5934	1156 Mayo
<u>Craig Hedberg, PhD, MS</u> Env. & Infectious Diseases/Food Safety	Professor Midwest Center for Food Safety	hedbe005@umn.edu	626-4757	1214 Mayo
<u>Huyn Kim, ScD</u> Occupational Injury Epidemiology, Injury Prevention	Assistant Professor	kimx4804@umn.edu	626-0435	1116 Mayo
Lee, Petrona	Lecturer	leex3143@umn.edu	625-2899	1158 Mayo
<u>George Maldonado, PhD, MS</u> Env. and Occupational Epidemiology	Associate Professor	gmphd@umn.edu	626-2104	1114 Mayo
<u>Jeff Mandel, MD, MPH</u> Occupational Medicine	Associate Professor	mand0125@umn.edu	626-9308	1240 Mayo
<u>Patricia McGovern, PhD, MPH, RN</u> Env. Health Policy/ Occupational & Env. Health Nursing/ Occupational Health Services Research and Policy	Bond Professor of Environmental and Occupational Health Policy	pmcg@umn.edu	625-7429	1112 Mayo
Jonathan Oliver, PhD Environmental Infections Diseases	Assistant Professor	joliver@umn.edu		1234 Mayo
<u>Lisa Peterson, PhD</u> Environmental Toxicology	Professor Program Leader Carcinogenesis and Chemoprevention	peter431@umn.edu	626-0164	760D CCRB
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<u>Pete Raynor, PhD, MS</u> Industrial Hygiene	Associate Professor	praynor@umn.edu	625-7135	1242 Mayo
<u>Matt Simcik, PhD, MS</u> Environmental Chemistry	Associate Professor MPH Major Chair	simci001@umn.edu	626-6269	1108 Mayo
<u>Irina Stepanov, PhD</u> Environmental Toxicology	Associate Professor	stepa011@umn.edu	624-4998	760 CCRB
<u>William Toscano, PhD</u> Environmental Toxicology	Professor	tosca001@umn.edu	624-2967	1260-6 Mayo
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Staff

Name	Title	E-mail	Phone	Office
Karen Brademeyer	Office Supervisor	kbrad@umn.edu	626-0900	1260 Mayo
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Frank Strahan	Info Tech Specialist	fxs@cccs.umn.edu	624-3710	1151 Mayo
Ellen Jerome	Student Worker	jerom058@umn.edu	626-0900	1260 Mayo

EnHS Division Awards

Each spring the students vote for recipients of two awards. The Herbert M. Bosch Award honors the student who "best exemplifies the traits of kindness and regard for the welfare of humanity". The Faculty Excellence Award recognizes a professor of Environmental Health for excellence of graduate instruction and progress in the professional development of the graduate students in the past academic year.

Herbert M. Bosch Award

This award is presented to the student who best represents the traits of scholarship, honesty, integrity of character, humaneness and concern for community, to name a few. The class of 1963 felt that the inscription on the plaque, "...who best exemplifies the traits of kindness and regard for the welfare of humanity..." is the most important single guide to be followed by the class in selecting one of their fellow students for this award. The Environmental Health class of 1963 created the Herbert M. Bosch Award as a living memorial to the man who had done much to further the cause of humanity.

To be eligible for consideration for this award, each candidate must be a full-time student in the Environmental Health program (minimum six credits all MS, PhD and MPH students). The class of 1963 established that any subsequent class may modify these criteria after discussion and consultation with the program director and a two-thirds majority vote by the class. It was hoped that any modification would strengthen the integrity of the award. The class of 1964 established the following procedures for nominating a candidate:

1. The nominating ballot will list those persons who are Environmental Health students this will also be the list of the eligible voters; At least 50% of the eligible voters need to vote for the ballot to continue.
2. Each eligible voter may select up to two names for the nomination;
3. The three names that occur most frequently will constitute the final nominating ballot;
4. The eligible voters will then vote for one candidate among the three nominated.

Faculty Excellence Award

This award is presented by the graduating class to a professor of Environmental Health for excellence of graduate instruction and progress in the professional development of the graduate students in the past

academic year. It was initiated by the Environmental Health Class of 1966. The selection of one of the candidates for this award in a previous year shall not prejudice the selection either for or against the candidate. Each year's selection shall be on the merit of the candidate in the previous twelve months and shall be independent of selections in previous years. It shall be the duty of the class officers and of the faculty to inform the graduate students of the terms of this award early in fall semester and at least one more time before the date of balloting.

All students registered for a graduate program with a major in the Division of Environmental Health Sciences are eligible to vote. It shall be the duty of the class officers to encourage all those eligible to vote to participate in this selection. The past two votes were conducted successfully via survey monkey.

Delta Omega - Honorary Society in Public Health

Delta Omega is the national honorary society for graduate studies in public health. (It is equivalent to Phi Beta Kappa for undergraduate studies in letters or Alpha Omega Alpha in medicine.) The society was founded in 1924, when only a few graduate schools of public health existed in the United States, and now has chapters at the majority of 25 or more such schools providing advanced public health degrees in 1990.

The Constitution and By-Laws were adopted in 1927, and amended occasionally since then. Policies are made by the National Council, composed of elected officers and representatives of each chapter, meeting annually. The annual meeting includes a scientific, as well as a business, program. It is usually held in conjunction with the Annual Meeting of the American Public Health Association.

The principle Delta Omega activities are conducted by each chapter. The chapter elects new members each year from three groups: (1) students who are candidates for a graduate degree in public health, (2) faculty members at the school of public health, and (3) alumni actively engaged in public health work. Election from all three groups is based on outstanding performance - scholarship in students, teaching and research in faculty members, and community service in alumni.

Election to membership in Delta Omega is intended not only to recognize merit, but also to encourage further excellence in and devotion to public health work.

More on EnHS Awards can be found here: http://enhs.umn.edu/current/award_descriptions.htm

1.2 Overview of Degree Programs

Degree Options: We offer MPH, MS, and PhD degrees and several areas of emphasis or concentrations. See Degree options and curriculum listings at the following websites.

MPH: <http://www.sph.umn.edu/academics/programs/mph/enhs/>

MS: <http://www.sph.umn.edu/academics/programs/ms/enhs/>

PhD: <http://www.sph.umn.edu/academics/programs/phd/enhs/>

Students may focus in one of the following areas:

- General (MPH, MS)
- Environmental Chemistry (MS, PhD)

- Environmental and Occupational Epidemiology (MPH, MS, PhD)
- Environmental Infectious Diseases (MPH, MS, PhD)
- Environmental Toxicology (PhD)
- Exposure Sciences (MS)
- Global Environmental Health (MPH, MS)
- Industrial Hygiene (MPH, MS, PhD)
- Injury and Violence Prevention and Control (PhD)
- Occupational and Environmental Health Nursing ((MPH, PhD))
- Occupational and Environmental Medicine (MPH)
- Occupational Health Services Research and Policy (PhD)
- Regulatory Toxicology and Risk Assessment (MPH, MS)

Doctoral Training Grants housed in the Midwest Center for Occupational Health and Safety (MCOH)

EnHS offers two doctoral training programs; each of which supports and enhances the Ph.D. training of students in multidisciplinary fields of study and research:

Occupational Health Services Research and Policy (Read more: OHSRP)

Occupational Injury Prevention Research Training (Read more: OIPRT)

MCOHS is an **Education and Research Center**, one of **18 nationwide**, was designed in response to a mandate of the National Institute for Occupational Safety and Health (NIOSH) -- to provide an adequate supply of qualified personnel to carry out the purposes of the Occupational Health and Safety Act and reduce the national burden of work-related injury and illness. The MCOHS, recognized regionally, nationally and internationally for its impact, has a service area that includes Minnesota, Wisconsin, and North and South Dakota.

MCOHS provides graduate academic and research training programs, continuing education and outreach activities, including research-to-practice, and serves as a regional resource for industry, labor, federal, state, and local government agencies, agriculture, and other interested parties.

An innovative administrative structure supports enhanced efforts in interdisciplinary research, education, and outreach, and strengthens diversity recruitment for the next generation of professionals.

Dual Degrees

The Division also offers the following joint degrees in collaboration with other university schools:

- JDP/MPH with the Law School
- MD with the Medical School

1.3 Academic Advising, Advising Team Collaboration; Expectations

The School of Public Health provides advising that promotes collaboration among students, faculty and staff to enhance students' academic and professional development in the field of public health. The School's goal is to provide educational and experiential excellence that prepares students for successful careers improving the health of populations. We do this by providing you with wide network of resources for you to take advantage of. We are part of your network.

The School of Public Health is committed to creating and sustaining high quality advising in the following four areas:

1. **Administrative Advising:** advising on course planning and scheduling, policies, procedures and benchmarks of the degree program/major, SPH, and the University. Your program coordinator is your first point of contact for these questions.
2. **Academic Advising:** general guidance on topics related to program/major including, but not limited to, program focus (may include identifying appropriate course work options), field experience and master's project selection and or career planning. Students find their faculty advisors, coordinators and career services staff all helpful in answering parts of these questions.
3. **Field Experience/Internship/Practicum Advising:** specific and targeted advising for field experience/internship/practicum development, placement and completion. Your faculty advisor can assist you as you select the type of field experience that would best match your goals. Career Services staff can help you to learn how to network with other students and alums to explore possible field experiences sites.
4. **Culminating Experience /Master's Projects/Plan B Advising:** specific and targeted direction on a master's project or a PhD dissertation including, but not limited to development, completion and in some cases publication. Your faculty advisor will assist you in developing a direction for your project or dissertation.

GRADUATE ADVISING EXPECTATIONS FOR STUDENTS

All SPH students are expected to:

Regularly read and respond to University email (ideally once per day); email is the official mode of communication at the University of Minnesota.

- Review program objectives and educational documents *at least once per semester*, (i.e. Student Guidebook, etc.), or when directed by program coordinator or program director/DGS; students are responsible for knowing the requirements of the degree program.
- Actively contribute to a welcoming and supportive SPH and EnHS climate.
- **Initiate** meetings with advisor(s) at least once per semester; regularly communicate with faculty advisor(s) and/or program coordinator about program progress.
- Respond to inquiries from faculty or staff in a timely manner (ideally within 1 – 3 business days).
- Behave in a professional and courteous manner; fulfill educational and advising commitments, such as appointments, project deadlines, etc.

Similar guidelines are posted by the University of Minnesota Office of Graduate Education for Academic and Professional Programs here: <http://www.gradvising.umn.edu/>

ACADEMIC ADVISING FOR FACULTY

Excerpt from: University of Minnesota Office of Graduate Education for Academic and Professional Programs here:

The work of the graduate faculty in preparing the next generation of scholars and professionals doesn't stop with classroom teaching. Advising, tutoring, supporting and supervising are all part of the faculty role as stewards of the profession and mentors to graduate students. Mentoring future professionals and professors, therefore, requires a commitment that goes well beyond the capacity of a single individual

advisor. Best practices in graduate education indicate that graduate and professional students' multiple professional and personal development needs are most effectively met by a network of people. These resources, developed by the Work Group on Advising & Mentoring, are provided to help you maximize your relationships with your advisees, deal constructively with conflicts that may arise, and address ways to communicate more effectively to minimize misunderstandings.

Diversity of Student Body

The School of Public Health embraces the University of Minnesota's position that promoting and supporting diversity among the student body is central to the academic mission of the University. We define diversity to encompass many characteristics including but not limited to: economic disadvantage, special talents, evidence of leadership qualities, race or ethnicity, sexual orientation, a strong work record, and disability. A diverse student body enriches graduate education by providing a multiplicity of views and perspectives that enhance research, teaching, and the development of new knowledge. A diverse mix of students promotes respect for, and opportunities to learn from, others with the broad range of backgrounds and experiences that constitute modern society. Higher education trains the next generation of leaders of academia and society in general, and such opportunities for leadership should be accessible to all members of society.

1.4 EnHS Program Curriculum

Most MPH/MS students require two years to complete their degree program. Students should consult with their advisor regarding the time required for their subspecialty; PhD students should also consult with their advisor to determine their curriculum and course of study.

General Public Health Core Coursework [required of MPH and MS]

Students are required to register for these courses A/F unless otherwise noted.

Course	Title	Offered	Credits
PubH 7194	Culminating Experience/Master’s Project [<i>S-N grade basis only</i>]	Any term	3-5
PubH 6103	Exposure to Environmental Hazards	Fall	2
PubH 6104	Environmental Health Effects: Introduction to Toxicology	Fall	2
PubH 6105	Environmental and Occupational Health Policy	Spring	2
<i>One of the following courses in Epidemiology</i>			
PubH 6320 or PubH 6341	Fundamentals of Epidemiology Epidemiologic Methods I	Any term Fall	3 3
<i>One of the following courses in Biostatistics</i>			
PubH 6414 or PubH 6450 or PubH 6451	Biostatistical Literacy (in class and online) Biostatistics I Biostatistics II	Any term Fall/Spring Spring	3 4 4
<i>One of the following courses in Ethics ②</i>			
PubH 6741 or PubH 6742	Ethics in Public Health: Professional Practice & Policy Ethics in Public Health: Research and Policy	Any term Any term	1 1

PubH 6741 is recommended for MPH students and 6742 for MS/PhD students (meets the Graduate School requirement for Ethics training for Research Assistants)

General Public Health Core Coursework [required of MPH students only]

Note: Students are required to register for these courses on an A/F grade basis unless otherwise noted.

More on Public Health Core Online and In person: <http://sph.umn.edu/programs/ehsmph/>

Course	Title	Offered	Credits
PubH 6020	Fundamentals of Social and Behavioral Science	Any term	3
PubH 7196	Field Experience [<i>S-N grade basis only</i>]	Any term	3-5
PubH 6751	Principles of Management in Health Services Organizations	Fall/Spring	2

Remember: you are expected to meet with your advisor at least once a semester

Recommended Field Experience Timeline *begins with research the first semester*

Year 1: Fall Semester (12cr)		
SPH Core	PubH 6320 or 6450 or 6414 or 6020, or 6341, or ...	3.0
PubH 6103	Exposure to Environmental Hazards (required)	2.0

PubH 6104	Environmental Health Effects: Introduction to Toxicology (required) other course/ elective courses (e.g. 6100,6106. 6162)	2.0 x
<i>Total</i>		

Year 1: Spring Semester (12.0 cr)		
PubH 6320	Fundamentals of Epidemiology	3.0
PubH 6105	Environmental and Occupational Health Policy Principles of Management in Health Services	2.0
PubH 6751	Organizations Electives	2.0 5.0
<i>Total</i>		12.0

In March submit your Self-Assessment Report to your advisor and major coordinator

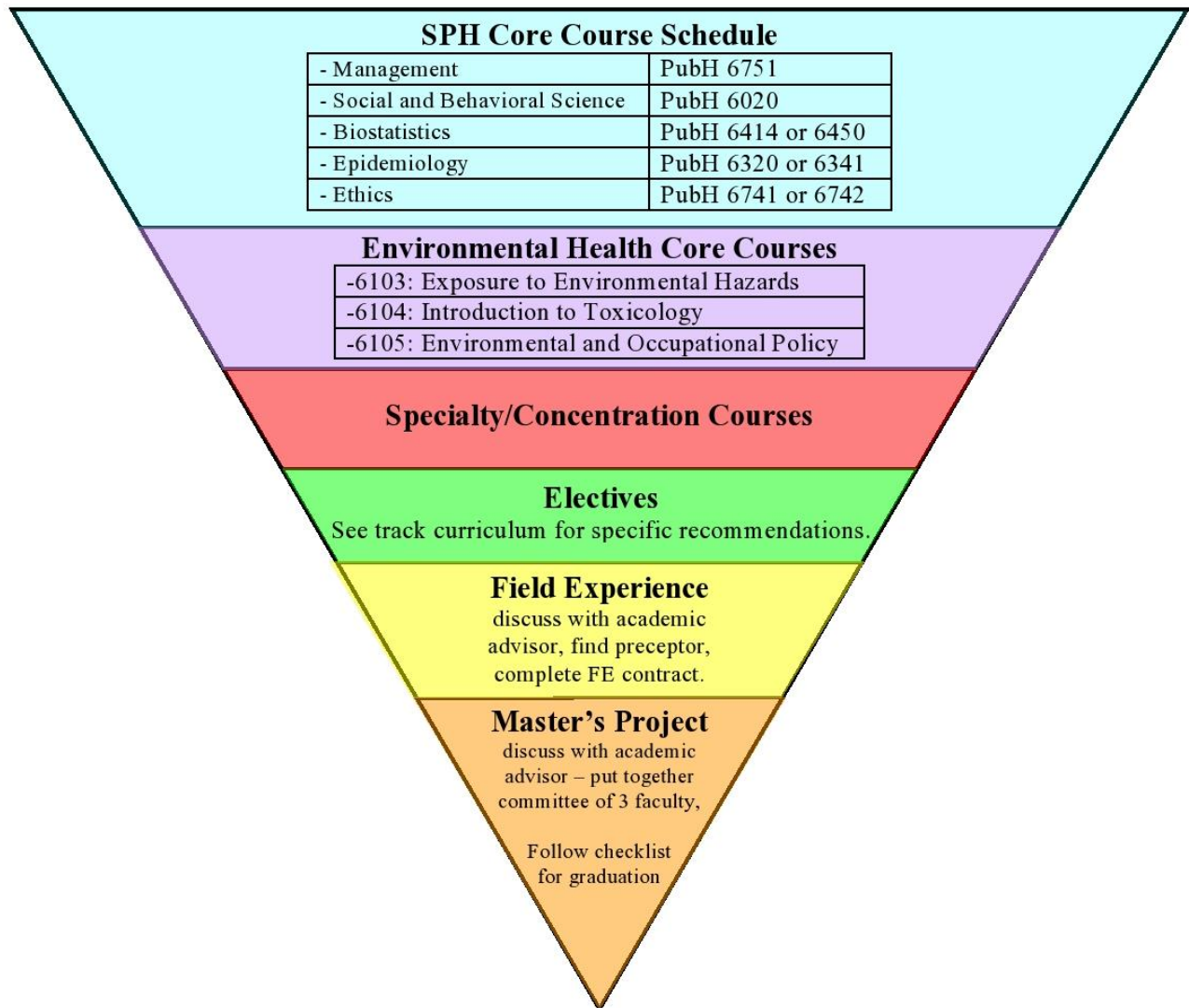
Year 1: May/Summer Semester (3.0 cr)		
PubH 7196	Field Experience in Environmental Health	3.0
PubH 7194	Culminating Experience (submit proposal if eligible)	3.0

Year 2: Fall Semester (9.0 cr)		
PubH 6414/6450	Biostatistics Surveillance of Foodborne Diseases and Food Safety	3.0
PubH 6181	Hazards	2.0
PubH 6741	Ethics in Public Health Professional Practice and Policy Electives	2.0 2.0
<i>Total</i>		9.0

Year 2: Spring Semester (8.0 Cr)		
PubH 6112	Env Hlth Risk Analysis: Apps to Human Exposure to Chemicals	3.0
PubH 7194	Culminating Experience/Master's Project Electives as needed	3.0 2.0
<i>Total</i>		8.0

Year 2: May/Summer Semester (0.0 cr)		
<i>Total</i>		0.0
Total		42.0

MS and MPH Degree Structure: Building Blocks for Your Degree



NOTE: All specialty tracks are now referred to as Concentrations except for the Industrial Hygiene.

1.5 SPH EnHS Division Core Course Schedule

Typical Fall Semester

Time	Monday	Tuesday	Wednesday	Thursday	Friday
8:00			6414 Lab 8:00 - 8:50		
8:55					
9:05	6450 Lab 9:05 - 9:55				8120 9:00 - 11:00
9:55		6414 Lec 9:45 - 11:00 TuTh	6132 9:05 - 11:00	6450 Lab 9:05 - 9:55	
10:10		VMED 5180 9:45 - 11:00 TuTh		6414 Lec 9:45 - 11:00 TuTh	
11:00				VMED 5180 9:45 - 11:00 TuTh	
11:15				6190 9:45 - 11:00 TuTh	
12:05		6020 11:15 - 12:30 TuTh			
12:20					
1:10		6450 Lab 12:20 - 1:10	6414 Lab 12:20 - 1:10	6450 Lab 12:20 - 1:10	6108 12:20 - 2:15 Th
1:25	6102 1:25 - 3:20 MW (1st Half)	6751 1:25 - 3:20 MW (2nd Half)	6450 Lec 1:25 - 3:20 TuTh	6134 1:25 - 3:20 (1st Half)	
2:15			6102 1:25 - 3:20 MW (1st Half)	6751 1:25 - 3:20 MW (2nd Half)	
2:30				6170 2:30 - 5:30	
3:20		6100 3:35 - 5:30			
3:35					
4:25	6181 4:25 - 5:15	6181 3:30-5:30	6341 (Sec 1) 3:35 - 4:50 TuTh	6320 Lec 3:35 - 5:30	
4:40			6320 Lec 3:35 - 5:30		
5:30			6414 Lab 3:35 - 4:25	6341 (Sec 1) 3:35 - 4:50 TuTh	
5:45	6162 5:45 - 7:40		6160 4:00 - 6:00	6115 4:40 - 5:30	
6:35					
6:50					
7:40					

Note: School of Public Health and Environmental Health Core requirements in red bold.
 Note: Single section 6414 and 6450 lab options in blue.

Typical Spring Semester

Time	Monday	Tuesday	Wednesday	Thursday	Friday
8:00		6320 Lec 8:00 - 9:55		6320 Lab 8:00 - 9:55	
9:05	6450 Lab 9:05 - 9:55				6140 9:05 - 11:00
9:55					VMED 5181 9:00 - 12:00
10:10	6450 Lec 10:10 - 12:05	6451 Lec 10:10 - 12:05	6182 10:10 - 1:10		
11:00			6150 10:10 - 1:10		
11:15			6450 Lec 10:10 - 12:05	6451 Lec 10:10 - 12:05	
12:05					
12:20			8142 12:20 - 2:15	6450 Lab 12:20 - 1:10	8120 12:20 - 2:15
1:10					
1:25		6120 1:25 - 3:20	6154 1:00 - 2:15 TuTh	6175 12:20 - 4:25	6108 12:20 - 2:15
2:15					6154 1:00 - 2:15 TuTh
2:30					8141 1:00 - 3:00
3:20					
3:35	6160 3:35 - 4:50 MW			6130 3:00 - 5:00	
4:25					
4:40			6414 4:00 - 5:15 TuTh	6342 4:00 - 5:15 TuTh	6100 4:00 - 6:00 (First Half)
5:30					6160 3:35 - 4:50 MW
5:45					6116 4:40 - 6:35
6:35	6101 6:00 - 9:00 (First Half) MW	6133 5:45 - 7:45			
6:50			6414 Lab 5:30 - 6:20		
7:40					
7:55					
8:05					

Note: School of Public Health and Environmental Health Core requirements in red bold.
 Note: Single section 6414 and 6450 lab options in blue.

1.6 EnHS Division Course List

Course Syllabi can be found here: <http://www.sph.umn.edu/academics/syllabi/>

3102 Issues in Environmental and Occupational Health

(3 cr) Lee

Scope of the field of environmental health. Concepts upon which environmental interventions are based. Consulting literature to identify appropriate interventions for community environmental health problems.

Fall: online

3104 Intro to Toxicology

(2cr) Wattenberg

Toxicology is a multidisciplinary experimental science that combines chemistry, biology, and physiology to determine whether substances we are exposed to in the environment are likely to harm our health. Students will learn how toxicology is used to understand how humans respond to chemicals in the environment. In addition, students will learn how toxicology is applied to protect human health through safety evaluation. **Spring offering; in class only.**

3106/6106 Making Sense of Health Studies

(2cr) Maldonado

How to critically evaluate health news (and the health research reports on which they are based) to make good, well informed decisions about your health and well-being. Pairs with 6106 Making Sense of Health Studies discussion. Fulfills public health minor requirements for CLA.

Fall and Spring: 12:20pm -2:15pm Th

3107 Global Public Health and the Environment

(2cr) Alexander

Environmental determinants of health/well-being of populations. Role of environment in public health, resulting population burden of disease. Variation of environmental public health determinants across globe. Interconnectedness of activities/actions of people in different countries. Fulfills public health minor requirements for CLA

Fall only: 3:55pm-5:30pm Tu

For 3120 see 6120; 3121 see 6121; 3123 see 6123

6100 Topics: Environmental Health

(.5-4 cr; prereq EH major or #)

New course offerings or topics of interest in environmental health.

6101 Environmental Health

(2 cr) Toscano

Principles of environmental health relating to macro- and micro-environments and to products consumed or used by people.

Fall and Spring: 6:00pm-9:00pm MW (first seven weeks)

6102 Issues in Environmental and Occupational Health

(2 cr; prereq grad student or EH major) Lee, Simcik

The field, the current issues and the principles and methods of environmental and occupational health practice. Independent field study to observe, view, and analyze environmental/occupational health programs, contacts on a discussion group on EnHS web page and completion of a take home exam are required.

Fall and Spring: 1:25pm-3:20pm MW (first half of semester) - Fall, Spring, Summer online options.

6103 Exposure to Environmental Hazards

(2 cr) **Raynor**

Nature, effects, and regulation of exposure to biological, physical, and chemical hazards in the environment, placing these in the context of the inter- and multi-disciplinary scientific field of environmental health as an essential component of the wider field of public health. The course will comprise lectures, presentation of example case studies, and group discussions.

Fall: 5:45pm-7:40pm TuTh (first half of semester)

6104 Environmental Health Effects: Introduction to Toxicology

(2cr) **Wattenberg**

To identify the mechanisms and effects of environmental agents on human health.

Fall: 5:45pm-7:40pm TuTh (*last seven weeks of fall semester*)

6105 Environmental and Occupational Health Policy

(2 cr; prereq EH major or #) **McGovern**

This is an introductory course designed to provide graduate students with a survey of environmental and occupational health policy, acquaint them with the public policy process in the United States and introduce conceptual frameworks for analyzing public policy alternatives. Students will be encouraged to apply course content to their professional career in public health and to contribute to policy that advances the health of the public. Students will develop an understanding of environmental and occupational health policies, laws, key concepts and principles, proposals and approaches for regulatory reform, approaches to policy analysis, and overall phases and issues in the policy making process. **Spring: 6:00pm-7:55pm Tu**

6106 Making Sense of Health Studies

(2cr) **Maldonado**

How to critically evaluate health news (and the health research reports on which they are based) to make good, well informed decisions about your health and well-being. Pairs with 3106 Making Sense of Health Studies lecture. Fulfills public health minor requirements for CLA.

Fall, Spring: 12:20pm -2:15pm Th

6112 Environmental Health Risk Assessment: Application to Human Health Risks from Exposure to Chemicals

(2 cr; prereq Intro courses in toxicology/exposure analysis e.g., PubH 6104 Environmental Health Effects: Introduction to Toxicology, PubH 6103 Exposure to Environmental Hazards or equivalent) **Wattenberg**
Introduction to risk in the context of regulatory decision-making.

Spring: 6:00pm-8:00pm Th

6115 Worker Protection Law

(1 cr) **Austin**

The course will focus on the role of government in protecting rights of citizens. Labor movement history will serve as a starting point for a discussion of modern systems for protecting workers from unsafe work

places and compensating them for Injuries that do occur. Law will be reviewed that protects individuals against class-based discrimination and creates a "right" to work.

Fall: 4:40pm-6:35pm W

6116 Environmental Law

(1 cr) **Austin**

Several difficult legal questions arise when pollution protection law conflicts with policy encouraging use of natural resources. Conflict also arises when the government restricts the use of property without compensating its owner. Course also considers the increasing authority of government agencies to audit business to assure compliance.

Spring: 4:40pm-6:35pm W

6120 Injury Prevention in the Workplace, Community, and Home

(2 cr) **Gerberich**

Injury epidemiology: analysis of major injury problems affecting the public in the workplace, community, and home using the epidemiologic model and conceptual framework; emphasis on strategies/program development for prevention and control.

Spring: 1:25pm-3:20pm M

6121 Topics: Injury Prevention in the Workplace, Community, and Home

(1-2 cr; prereq 6120, 6330 or 6341) **Gerberich**

Selected projects relevant to injury problems.

Spring TBA

6123 Violence Prevention and Control: Theory, Research, and Application

(2 cr) **Ramirez**

Analyses and critique of major theories and epidemiological research pertinent to violence, including characteristics of violence and relevant risk factors, reporting and treatment protocols, and current/potential intervention efforts and prevention initiatives; emphasis on interdisciplinary contributions to violence prevention and control.

Spring: 1:25pm-3:20pm M

6130 Occupational Medicine: Principles and Practice

(2 cr; prereq Grad student or EH major) **Mandel**

Pathogenesis of diseases caused by occupational hazards, evaluating work-related illnesses, overall regulatory framework governing occupational health and safety.

Spring: 5:00pm-7:00pm W

6131 Working in Global Health

(2 cr) TBA

Major factors influencing health worldwide, and the interdependence of the developed and developing world in addressing health problems from a global perspective.

Spring: 6:00pm-8:30pm W

6132 Air, Water, Health

(2 cr) **Simcik**

In this course we will explore the issues related to providing adequate levels of clean air and water. Specific issues include local water quantity and quality and local air quality in both the developed and developing world, as well as global air and water quality, and policies meant to protect these resources.

Fall: 9:05am-11:00am W

6133 Global Health Seminar

(1 cr)

This seminar course will explore various aspects of global health from a public health perspective.

Spring: 5:45pm-7:45pm M

6134 Sustainable Development and Global Public Health

(2cr) No Prereqs; **Toscano**

This course will focus on the effect of globalization on social and sustainable development on global health from a public health perspective. Topics will include the interplay between global stressors such as population, war, economics, urbanization, environment, water and sanitation, communicable and non-communicable conditions and their effects on human health globally. This course is intended for students who do not have extensive public health training.

Fall: 1:25pm – 3:20pm TuTh (first half of the semester)

6140 Occupational and Environmental Epidemiology

(2 cr; prereq basic course in epidemiology and biostatistics) **Kim**

Principles and concepts in identifying health effects in the workplace; strategies for identifying excess risk, evaluating strengths and weaknesses of research techniques, assessing bias and confounding.

Spring: 9:05am-11:00am Th

6150 Interdisciplinary Evaluation of Occupational Health and Safety Field Problems

(3 cr; prereq PubH 6170 or instr consent) **Arnold**

Guided evaluation of potential health and safety problems at the worksite, recommendations and design criteria for correction; and evaluation of occupational health and safety programs.

Spring: 10:10am-1:10pm Tu

PubH 6151 OEHN Nursing Seminar

(1cr) **McGovern**

Seminar focuses on professional role and skill development, competency assessment, and development and implementation of field experiences and plan B research papers. Depending on the student cohort each semester, the seminar will be a group learning activity or individualized mentoring based on the instructor's assessments of students' learning needs.

Fall, Spring TBA

PubH 6154 Climate Change and Global Health

(3 cr) **Simcik**

This course explores the interconnected relationships between global climate change and human health. During this course students will develop computer models to predict climate change from natural and anthropogenic forces, predict human health outcomes as a result of a changing climate, and combine them to investigate different policy scenarios.

Spring: 1:00pm-2:15pm TuTh

6160 Systems Toxicology (formerly "Metabolomics")

(3 cr; prereq Biochem, mol biol, org chem or #) **Peterson**

Pharmacokinetics/toxicokinetics and xenobiotic metabolism. Mechanisms by which phase I and phase II enzymes bioactivate and detoxify xenobiotics. Implications of these biochemical reactions for human health.

Spring: 3:35pm-4:50pm MW

6161 Regulatory Toxicology

(2 cr; prereq some background in [toxicology or pharmacology or related field] is recommended) **Balbo**
In-depth introduction to laws (and associated regulations) of U.S. federal regulatory agencies, such as CPSC, EPA, FDA, OSHA, and DOT, that both require and use toxicological data/information in their mission of protecting human and environmental health.

Spring Th 5:30pm -7:30pm

PubH 6162 Biomarkers

(2 cr) **Stepanov**

Biomarkers are invaluable tools in identifying and preventing human disease. Due to significant concerns over the risk of human exposure to airborne pollutants, persistent organic pollutants, heavy metals, and other environmental agents, the potential of molecular markers is especially high in identifying susceptible individuals and preventing environmentally-induced disease. This course will introduce current status of molecular biomarker research, including biomarkers of chemical exposures, genetic toxicity markers, genomics-based biomarkers of susceptibility, and organ and systems biomarkers. The progression of biomarker development and application from the laboratory environment to the clinical or population-based settings and to the development of public health policies and interventions will be discussed. The course will include a collaborative project.

Fall: 5:45pm-7:40pm M

6170 Introduction to Occupational Health and Safety

(3 cr; prereq EH major or #) **McGovern**

Introduction to major concepts and issues in occupational health and safety. Apply public health principles and decision-making process in relation to prevention of injury and disease, health promotion of adults and protection of worker populations from environmental hazards.

Fall: 2:30pm-5:30pm W

6173 Exposure to Physical Agents

(2 cr; prereq grad student or EH major, IH specialty or equiv preparation) **Raynor**

Nature, health effects, monitoring and control of physical agents in working and living environments, ionizing/non-ionizing radiations (including lasers and ultraviolet, visible and infrared light), noise and vibration, and heat and cold stress; dose, response and engineering interventions.

Spring: 4:40pm-6:40pm M

6175 Environmental Measurements Laboratory

(2 cr; prereq PubH 6171 or #) **Simcik**

Broad treatment of occupational health field. Role of industrial hygienist. Emphasizes practical application of industrial hygiene concepts/methods. Lectures/demonstrations, lab exercises, project.

Spring: 12:20pm-4:25pm W

6181 Surveillance of Foodborne Diseases and Food Safety Hazards

(2 cr; prereq PubH 6320 or PubH 6341) **Hedberg**

Surveillance of food borne disease and food safety.

Fall: 3:30pm-5:30pm M

6182 Emerging Infectious Diseases: Current Issues, Policies, and Controversies

(3.0 cr; Prereq-AHC student, #; A-F spring, every year) **Osterholm**

Issues/controversies surrounding emerging infectious diseases. Framework for considering realistic/innovative policies. Bioterrorism, public health preparedness. Pandemic influenza preparedness, smallpox vaccination, antibiotic resistance.

Spring: 10:10am-1:10pm M

6183 Theory and Practice in Foodborne Disease Outbreak Detection, Investigation and Control (1 cr)
Hedberg

This course focuses on the practical basis for developing and implementing methods for foodborne disease outbreak detection, investigation and control; using recent outbreaks to highlight underlying principles. The course will review biological characteristics of major foodborne disease pathogens, clinical features of the illnesses they cause and epidemiologic presentations of foodborne outbreaks. The implications of these characteristics will be discussed in a problem solving, seminar format that examines theory and practice in the context of recent outbreaks. Strategies to promote timely decision-making will be emphasized. **Spring We 4:00-6:00pm**

6190 Environmental Chemistry

(3 cr; prereq gen chem, org chem or #) **Simcik**

Overview of chemistry of air, water and soil, pertinent environmental problems; human and ecological multi-media exposures to chemicals in the environment.

Fall: 9:45am-11:00am TuTh

6192 Measurement and Properties of Air Contaminant

(2 cr Prereq: Good grasp of [elementary physics, chemistry, mathematics including calculus])

This course explores the physical nature of gaseous and particulate air contaminants, their occurrence in workplaces, the factors governing generation and dispersal, the criteria, rationales and standards under which practical measurement in the workplace is conducted, the principles underlying industrial hygiene measurement techniques; processes of inhalation and deposition of aerosols and their ultimate fate, and scenarios linking exposure with aerosol-related ill-health

Fall: 12:20pm-2:15pm WF (first half of the semester)

6193 Advanced Topics in Exposure Sciences

(2 cr A-F only; prereq 6192 or instr consent)

Fall: 12:15pm-2:20pm WF (second half of the semester)

7193 Directed Study: Environmental Health

(1-4 cr; prereq grad student, EH major, #) EnHS Faculty

Directed study in a topic at discretion of faculty member. Usually students and faculty agree upon an area they feel could enhance the advanced masters' students' educational experience. *Independent Study*

Fall, Spring, Summer

7194 Master's Project: Environmental Health

(1-5 cr; prereq EH major or #) EnHS Faculty

Directed projects or examination in environmental and occupational health. *Independent Study*

Fall, Spring, May session, Summer

7196 Field Experience: Environmental Health

(1-5 cr; prereq EH major or #) EnHS Faculty

Directed practicum in environmental and occupational health. *Independent Study*

Fall, Spring, May session, Summer

7200 and 72XX Topics Courses Public Health Institute

May Session single day or three week intense courses. <http://www.sph.umn.edu/ce/institute/>

8100 Topics: Environmental and Occupational Health

(1-6 cr; prereq #) EnHS Faculty

New course offerings or topics of interest in environmental and occupational health.

Fall, Spring, May session, Summer; Time and place to be arranged

8120 Occupational Health and Safety Research Seminar

(1 cr; prereq EH major, OIPRTP specialty or equiv, PubH 6120, 6330 or 6341, 6450) **Gerberich, Alexander**

Facilitate student research efforts in occupational injury epidemiology and control through roundtable discussions and interdisciplinary involvement.

Fall: 9:00am-11:00am F; Spring: 12:20pm-2:30pm F

8141 Doctoral Seminar in Observational Inference

(2 cr) **Maldonado**

This seminar course in observational inference is designed for doctoral students in public health who are interested in practicing the fundamentals of epidemiologic inference, including methods for designing, analyzing, and interpreting epidemiologic studies. Class time will be spent critically discussing methods papers and applied papers and designing studies or parts of studies related to various areas of observational inference, including environmental and occupational health.

Fall, Spring: 1:00pm-3:00pm F (when offered)

8142 Epidemiology Uncertainty Analysis

(2 cr; prereq PubH 8140) **Maldonado**

The course will focus on the techniques of non-probabilistic and probabilistic (Monte Carlo) sensitivity analysis. This course builds on the concepts discussed in PubH 8140.

Spring: 12:20pm-2:15pm Tu F (when offered)

8160 Advanced Toxicology

(2 cr; prereq biochem, molecular biol, PubH 6160, #) **Peterson**

Cellular and molecular mechanisms by which xenobiotics cause toxicity; investigative approaches to current research problems in toxicology and carcinogenesis.

Fall: 4:00pm-6:00pm W

8161 Current Literature in Toxicology

(1 cr; S-N only, prereq - 6104) **Peterson**

The objective of this course is for students to critically read and discuss current toxicological literature. The topics covered in this course will change every semester with the goal to learn modern methods in toxicology and develop critical thinking skills.

Fall: 4:25pm-5:15pm M

8166 Experiences in Toxicology Research

(3.0 cr; Prereq-Environmental health PhD student in toxicology concentration; A-F only) **Peterson**

Students complete research projects in labs of toxicology program graduate faculty members. *Independent Study*

Spring TBA

8194 Directed Research: Environmental and Occupational Health

(1-6 cr; prereq grad student, EH major) EnHS Faculty

Opportunities to pursue research in environmental and occupational stresses on human health.

Independent Study

Fall, Spring, May session, Summer; Time and place to be arranged

VMED 5180 Ecology of Infectious /Diseases

(3cr; no credits if student for VMED 5180 if students has previously taken PubH 6180, PubH 6380 or CMB 5180.) **Singer**

This course focuses on the ways in which host, agent and environmental interactions influence the transmission of infectious agents. Specific topics related to these microbes include: transmission probability, herd immunity, evolution of virulence, host specificity, host-agent co-evolution, antimicrobial resistance, environmental dissemination, eradication and control, and use of analytical and molecular tools.

Fall: 9:45 – 11:00 TuTh

VMED 5181 Spatial Analysis in Infectious Disease Epidemiology

(3cr; preq intro to Epi, statistics) Singer

Knowledge of the spatial distribution of disease events (exposures and outcomes), and factors that determine where disease occurs, is a foundation of epidemiology and public health. Although disease maps have a long history of use in public health, it is only recently that methods for analysis of spatial disease data have become widely available. This course will provide students with a framework for analyzing spatial disease data, and illustrate the importance of such techniques in public health, geography and epidemiology. With this knowledge, students should be able to design, analyze and report on their own studies. The course will focus on human and animal health-related examples. The course will focus primarily on the spatial distribution of infectious diseases, but the principles discussed apply equally well to non-infectious diseases.

Spring: 9:00-12:00 F

2. ENHS MPH DEGREE REQUIREMENTS

2.1 SPH Requirements, Program Curriculum - Coursework and Credits

MPH Students must complete a minimum of 42 credits in the following areas: General **SPH Core** courses, **EnHS Core** courses, **focus/concentration area** and **electives**. MPH students must also complete an approved Field Experience and Master's Project (see section 8.4 in this guidebook)

Students must maintain a minimum GPA of 3.00 during all semesters to remain in good standing to earn an MPH degree. Students are expected to meet with faculty advisors at least once a semester. Students can request a meeting via email or walk-in with the administrative advisor (major coordinator) at any time in the semester.

Students working towards an MPH degree must satisfy competency requirements in the six core areas of public health – administration, behavioral science, biostatistics, environmental health, epidemiology, and ethics – by completing ONE of the following in each core area:

- Satisfactorily pass one of the pre-approved courses in the core area with a **B- or better** (see pre-approved course list below) Course will have to be repeated if a lesser grade is received; OR

- Pass an equivalency exam in the core area. OR
- Pass an advanced course in the core area as approved by the division head or the Educational Policy Committee, OR
- Complete a graduate level course, with a grade of B or better, at an accredited university or college that meets the competencies defined by CEPH. The Educational Policy Committee, upon petition of the student, will determine acceptance of a course for transfer.
Petition form .

Pre-approved SPH Core Courses:

Administration

PubH 6751 Principles of Management in Health Services Organizations – 2 cr. (6752 is currently **not** offered)

Behavioral Science

PubH 6020 Fundamentals of Social and Behavioral Science – 3 cr.

Biostatistics

PubH 6414 Biostatistical Methods I – 3 cr.

PubH 6450 Biostatistics I – 4 cr.

PubH 6451 Biostatistics II – 4 cr.

Environmental Health

PubH 6103 Exposure to Environmental Hazards – 2 cr.

PubH 6104 Introduction to Toxicology – 2cr

Epidemiology

PubH 6320 Fundamentals of Epidemiology – 3 cr.

PubH 6341 Epidemiologic Methods I – 3 cr.

Ethics

PubH 6741 Ethics in Public Health: Professional Practice and Policy – 1 cr.

PubH 6742 Ethics in Public Health: Research and Policy – 1 cr.

2.2 Course Transfer, Credits, Substitutions, Waivers, Grading Policies, Residency Petitions

Students must complete credit requirements as specified by the individual major with a **minimum of 42 credits**. A student may seek transfer of up **to 40%** of the total number of credits required to complete the MPH degree. Courses approved for transfer into the program must be graduate or professional degree level courses taken at an accredited institution within the last five years. Courses older than 5 years may be allowed for individuals with prior earned advanced degrees who have been actively working in their field of study as demonstrated by their current resume. Course credits may be used to satisfy public health core or other program requirements as jointly approved by the appropriate Major Chair and/or Educational Policy Committee and Associate Dean for Academic Affairs.

MPH students who have completed graduate-level coursework at the University of Minnesota or another college or university may petition to transfer those courses in toward their MPH degree. Courses taken

before the awarding of a baccalaureate degree cannot be transferred. To be considered for transfer, graduate level coursework must have been taken at an accredited graduate institution within the last five years and earned at a B- or better level.

Process: Students

1. Meet with their advisor to discuss if the course is petition-able. If the petition is acceptable to the advisor, the student will complete and sign the *Petition* form, obtain the advisor's signature, and attach an official transcript on which the final grade has been posted. Petition form is available at: <http://policy.umn.edu/forms/otr/otr172.pdf>
2. Submit the petition form to the Program Coordinator for processing.
3. The Program Coordinator will forward the petition to the major chair and then to the Associate Dean for final evaluation and/or approval.

Students admitted to the Public Health Certificate in Core Concepts program are considered officially enrolled in the School of Public Health. While successful completion of the Certificate program does not entitle recipients to future admission to SPH degree programs, recipients are free to apply to degree programs upon completion of the Certificate. Should they be admitted to an MPH major, the 15 credits qualifying for the Certificate will be accepted if courses **are passed with a B- or better** fulfilling the public health core requirements, and do not count as transfer credits.

Course Substitutions and Waivers

All student requests that deviate from the degree curriculum requirements outlined in this Guidebook must be made on a *Petition* form

Students should note that the process for approving a course substitution or waiver could take up to one month, so plan accordingly. Do not register for an equivalent course until you know if your petition was denied.

Course Substitution Procedures:

The following process should be followed when requesting that a course substitute for a required course in your degree program.

1. Gather the course syllabi of the required course in your degree program and the proposed substitute course and a transcript on which the proposed course grade has been posted (if the proposed course has already been completed).
2. Complete the *Petition* form with the following information in each section:
 - REQUEST SECTION: describe the course requested for substitution including the course title, number of credits, term and year taken, and the name of the institution where the course was taken. Also list the course/requirement in your degree program for which you are asking for the substitution.
 - REASON/EXPLANATION SECTION: Indicate what skills and/or content overlaps between the required course(s) and the proposed substitute course(s).
3. Compile the above materials and have the request reviewed by your advisor. He/she will complete the Department section of the *Petition* form and indicate whether or not they approve of the request.
4. After the advisor has made his/her recommendations, the student should submit these materials to the Major Coordinator who will forward it to the appropriate Credentials Committee for review. The student will be notified via e-mail of the committee's decision.

5. If the substitute course is to replace a School of Public Health Core course (administration-PubH 6751, behavioral/social science-PubH 6020, biostatistics-PubH 6414/6450, environmental health-PubH 6101/6102, epidemiology-PubH 6320/6341, ethics-PubH 6741/6742), there is an additional step to get School level approval. To complete this next step, provide two additional copies of the above materials. All of those materials should be submitted to your Major Coordinator. Upon receipt of those materials, the Major Coordinator will review the request with the Major Chair and then if approved by the Major Chair, all copies of the request will be forwarded to Carol Francis to be presented to the appropriate SPH Educational Policy committee members. The student will be notified via e-mail of the committee's decision. If the Major Chair does not approve of the request, the Major Coordinator will inform the student that the request will not be forwarded to the SPH Educational Policy Committee for review.

PETITION form (click to access)

SPH Grading Policies

Grade Point Average

Students must achieve a grade point average of no less than 3.0 (B) across their entire program to receive an MPH degree.

S-N Grade Option

MPH students may **take no more than 20% of their coursework on an S-N grading basis**, exclusive of those topics, seminars, and field experience courses offered only on an S-N basis.

Public Health Core Courses

Courses designated as part of the public health core must be taken for a **letter grade (A-F)**. Students will be required to achieve no less than a B- grade in each course taken on an A-F basis. Students may retake public health core courses at their own expense until they achieve a grade of B- or better. However, a retaken course may be counted only once toward degree requirements in the student's study plan. Courses may not be repeated more than once.

Each public health major may require higher levels of achievement for its own students in public health core courses that are also core to the major. This may include restrictions on retaking public health core courses that are also core to the major, or requiring more than a B- performance level. Students should consult their Major Coordinator for documentation of these requirements.

SPH Residency -Minimum Registration Requirement

Students are required to register for at least **2 semesters and 15 credits** in the School of Public Health.

Course Numbers and Graduate Credit

5xxx, 6xxx, 7xxx and 8xxx-level courses are considered graduate-level. 1xxx and 3xxx-level courses are for undergraduates and will not receive approval for graduate credit. Under some circumstances – with approval of the student's Major Chair – 4xxx level courses may also be applied toward a MPH degree as long as they are taught by a member of the graduate faculty. Courses taken before the awarding of a baccalaureate degree cannot be applied toward a MPH degree.

2.3 Field Experience and Learning Agreement Online Module: PubH 7196 Registration

Field Experience: All students matriculating in the MPH program must complete a formal, supervised fieldwork experience, sometimes referred to as an internship. The FE should consist of at least 135 hours for a 3 cr registration. **(S/N grade option only)** under your academic advisor's section of PubH 7196.

The purpose of the field experience is to help students develop practical skills and competencies as well as provide an opportunity for the student to enhance job placement in the environmental health sciences field following completion of the degree.

NOTE:

All MPH students must complete a Field Experience Learning Agreement online: This includes all domestic and international field experiences. International field experiences require more planning time and more steps than domestic ones – at least 3-4 months of planning ahead.

Travel to countries on the U.S. State Department travel warning list: University policy requires students, and faculty/staff leading students, traveling to countries on the U.S. Department of State's travel warning list to seek special permission from the University's International Travel Risk Assessment and Advisory Committee.

For general information about the field experience requirement and help with finding a field experience or how to complete the online Learning Agreement and for a suggested timeline for the field experience (when should I start planning for a field experience?) visit the FE homepage-an excellent resource. The details of the field experience and goals and objectives can be found online on the SPH website

Learning Objectives:

- Learn first-hand about the organization, operations, and special activities of selected agencies, institutions, and industries concerned with environmental health (EnHS) or related programs.
- Gain insight into programs, personnel management, governmental relations, public relations, legislative support and, particularly, knowledge of special investigations conducted by these organizations.
- Participation in activities of EnHS programs external to the University adds a dimension of experience to the curriculum that enriches the student's training and will be beneficial in seeking employment.

Requirements:

- Each major has established requirements for completion of field experience.
- Student must negotiate terms of the Learning Agreement with academic adviser and preceptor.
- Register under PubH 7196 for a minimum of 3 credits, 45 hours per credit for a total of 135 hours (S/N grade option).

MPH students **MUST** complete a Field Experience **Learning Agreement** online **AFTER** negotiating terms of the **Learning Agreement** with your advisor and preceptor. Contact the Program Coordinator for a

registration permission number which will be set up uniquely for you. **Be sure to check the signature box and click the submit button on the online Learning Agreement** for your **Learning Agreement** to route appropriately to your advisor and preceptor for approval - **this has to be done before requesting a permission number to register for PubH 7196.**

For FE planning resources and FE online Learning Agreement go to:

As a first step in finding your ideal field experience, students are encouraged to set up a meeting with the field experience associate (sphfield@umn.edu). Students must in addition seek approval from their academic advisor to ensure that the FE will meet EnHS goals for the FE.

FE online **Learning Agreement** process: fillable online form provides streamlined, comprehensive information for the student, their preceptors, and faculty advisor.

The completed form is automatically routed electronically after the student initiates, completes and signs the online form-this means check the box for a signature before submitting the form. Form routes automatically to:

- 1) preceptor email address- preceptor logs on and reviews form and may ask for modifications before approving and signing off. Discussions and several meetings prior to completion of the form helps.
- 2) advisor email address – advisor approves or asks for modification
- 3) To major coordinator reviews and approves
- 4) Student emails major coordinator and requests permission number to register for PubH 7196 via email. Include your student ID number, section of the course you wish to register for, name of instructor who will enter a grade for you and who reviewed the agreement; specify semester to register for.

To route the agreement first check the signature box at the bottom of the learning agreement **and click "Submit"**, the agreement form will automatically move to the next step in the process. Forgetting to click the submit button and or skipping checking the signature box will cause the agreement to stall and not route to preceptor, advisor and major coordinator. An email alert will be sent to them with instructions and a log-in link for reviewers to review, edit, and sign the agreement. At the end of the FE period– student and preceptor must complete an online evaluation for the student to obtain a grade to be posted by the instructor.

Neither prior professional degrees nor prior work experience in a field not closely related to the MPH degree program are sufficient grounds for waiving the fieldwork requirement. Each major has established requirements for completion of fieldwork.

Field Experience: EnHS Specific Requirements

Background

Part of the curriculum for the master's degree includes an opportunity for students to learn first-hand about the organization, operations, and special activities of selected agencies, institutions, and industries concerned with environmental health (EnHS) or related programs.

The EnHS field experience opportunity provides students with a means of gaining additional insight into programs, personnel management, governmental relations, public relations, legislative support and, particularly, knowledge of special investigations conducted by these organizations. Participation in the activities of EnHS programs external to the University adds a dimension of experience to the curriculum that enriches the student's training and will be beneficial in seeking employment.

Various governmental units are involved with EnHS programs in the Twin Cities metropolitan area. Some examples of agencies with which students might seek affiliation for field experience include: Minnesota State Health Department, Minnesota Pollution Control Agency, Environmental Quality Board, Minnesota State Planning Agency, US Food and Drug Administration, Minnesota Department of Natural Resources, St. Paul Water Department, Metropolitan Council, Minneapolis Water Department, and the Metropolitan Waste Control Commission. There may also be possibilities for assignments with local health department units of the cities of Minneapolis, Bloomington, Edina, St. Louis Park, Fridley, and Richfield, or with the Anoka, Ramsey, or Scott County Health Departments, etc. In some cases students may wish to select affiliation with an EnHS program in a local industry or with a hospital facility. A number of out of state positions are also available during the summer.

Please be aware that certain facilities are required by Minnesota law to submit paperwork for a criminal background check for all personnel with direct, unsupervised client contact; see *section 5.9* of this guidebook.

Requirements

1. All MPH majors are required to complete field experience as part of their degree program (also encouraged for MS students).
2. Students, in consultation with their advisor, should select the particular organization with which they wish to work. Selection of the organization, contact with it and the designation of a preceptor in the organization may be arranged any time during the academic year.
3. Field experience must be for a minimum of 3 credits. These credits may be taken during one semester, or divided among several semesters. As a guideline, a minimum effort of **45 hours** per credit is expected.
4. A maximum of 5 credits (with advisor's consent) earned for the agency experience may be applied toward the fulfillment of degree credit requirements as determined by the faculties of the Graduate School and the School of Public Health.
5. To be eligible to register for field experience, PubH 7196, a student should first complete a learning agreement form, available online.

6. The form routes electronically to be signed by the person the student will work with at the agency, and the student's advisor as soon as arrangements are completed for the agency assignment. The form is intended to avoid misunderstandings concerning expectations on the part of all parties involved.
7. Students must submit a field experience evaluation/report(s) to their academic advisor to obtain a grade. The nature and extent of the report(s) is determined by the advisor. If an agreement is not completed that semester, the advisor will assign a grade of "K" to be changed to "S" or "N" once the evaluations are in.
8. Some students may find certain aspects of the agency activity of sufficient interest to do a "Plan B or Plan C" project while assigned to the agency. This requires study that is more extensive, an appropriate literature review, and an expansion of the subject beyond the field experience. The ultimate feasibility of such arrangements should be decided jointly by the student, the advisor, and the preceptor. This applies to also to a student wishing to use their place of employment to do a master's project.
9. Grades for PubH 7196 are submitted when the major advisor has accepted and approved the report(s) on the field experience. **S/N is the only grading option available.**

2.4 Progress Review/ Annual Review, Study Plan

MPH Study Plan form is available here: http://sph.umn.edu/site/docs/degrees-programs/mha/MPH-MHA_StudyPlan.pdf

Students are required to submit a completed MPH Study Plan to their Major Program Coordinator at least one semester prior to their anticipated completion of coursework. Earlier submission (e.g. in the second to last semester) is suggested to allow the SPH and major coordinators to review the study plan and notify students if they are missing any requirements prior to their last term of study. Complete the Word doc version, save and email to your advisor and major coordinator

Progress Review

- a. **Annual Review** Per university policies and guidelines programs must review the progress of each master's student annually. Students deemed not to be in good standing must be informed of the results of the review in writing, with a copy to the student's advisor. See annual review self-assessment form –Appendix A.

2.5 MPH Master's Culminating Experience / Project Proposal Form : PubH 7194 Registration

The use of the word Masters' Project signifies a planned undertaking involving studious inquiry or examination. Typically, the product of that undertaking is a formal, written, scholarly report that demonstrates writing proficiency; and the ability to critically approach a topic, synthesize, interpret, and

successfully convey information to the appropriate audience. Other formats for presenting the results of the project can be used in consultation with the faculty advisor.

Students are expected to demonstrate familiarity with the tools of applied research or scholarship in the field of environmental and occupational health, the ability to work independently, and the ability to apply skills learned in coursework by completing a Plan B Project or a Culminating Experience Report. The Project must involve more than one faculty member, one as primary Research Advisor and at least two faculty members (a preceptor with an MPH is eligible to serve as the third member and subject matter experts readers for the project to give feedback prior to the scheduling of the final oral exam. The Masters' Project requires a total effort of not less than **180 hours** for 3 credits (3-5 semester credits -S/N only).

Students, their research advisor, and the faculty member for whom the work is to be done (if different from the Research Advisor) decide how the Masters' Project requirement is to be met. Students are responsible for consulting with and acquiring approval from their academic advisor and or research advisor to confirm that the project meets the requirements of their program of study. The topic and form of the Masters' Project paper depends upon the student's experience and the interests of both the student and the faculty advisor. If a student lacks experience in writing scholarly papers, the student may profit from writing one or more Plan B Literature Reviews each of which involves a critical synthesis and interpretation of the literature on an environmental or occupational health topic. However, those students with demonstrated writing skills and an interest in research might profit from working on a Plan B Research Paper involving collaboration with faculty on a data based project.

The student's work could culminate in the preparation of an article for potential publication. Guidelines for a Plan B research paper and a Plan B literature review are included in this guidebook. If the student has had considerable experience in writing papers, as evidenced by some published material, and has had little experience in laboratory or other kinds of field activities a Masters' Project developed to provide some experience in this area would be beneficial. This approach may be associated with the PubH 7196 field experience.

Students should register for the Masters' Project 3-5cr - PubH 7194 Master's Project: Environmental Health. Students obtain a permission number from the major coordinator after getting the master's proposal approved by the research advisor and then register for PubH 7194 under the academic advisor's section on onestop.

Approval Process (before requesting a permission number to register for PubH 7194 master's project) do this:

In order to maximize the benefit from the research advisor's input, students must have their topic approved by their faculty research advisor and academic advisor. Approval must be received in writing before work can begin on the project proposal. After receiving the research advisor's approval on the topic, the student should begin to develop the project proposal. The *Masters' Project Proposal Form* is considered a useful guide for proceeding with an agreed upon approach to the master's project. The proposal sets up a guiding framework for the project and establishes a timeline for completion that is mutually satisfactory to students and their advisor. The project proposal should include at the minimum, the following:

- Statement of purpose or the idea for the project
- Indication of culminating product: Plan B Research Paper or Plan B Literature Review
- Statement of key research questions to be addressed and rationale
- List of associated objectives for the project

- Brief description of the project's methodology
- Proposed timeline
- Project budget (if applicable)

The research advisor will determine if there are other preferred additions or subtractions.

Completion of the Masters' Project/Culminating Experience

Students must keep in touch with their research and academic advisor(s) and third committee member during the course of the Masters' Project. Each advisor should specify how he/she prefers to work with the student. Students should know that faculty may decline working with a student's project that is out of their area of expertise or if the student's timeline does not work out for the faculty member. Therefore, students are encouraged to seek information and ideas from other faculty members as well. A draft or drafts of the project should be submitted to the research advisor for review and comments at least two to three weeks in advance. Comments should be incorporated into the final draft of the project, and resubmitted to the research advisor and readers. Students desiring publication of the master's project should discuss this with their advisor. Master's projects written in publication format meet the program requirements with prior research advisor approval. Once the research advisor has approved a final version of the project, the final draft should be typed and submitted for acceptance.

Complete Master's proposal form next page

EnHS Master's Project Approval Form (PubH 7194) 3-5cr S/N grade only

The student's Master's Project (also now known as **The Culminating Experience Project**) must be pre-approved before extensive effort has been spent on implementing the chosen topic and before requesting a permission number to register for 7194. Submit this form to the major coordinator upon completing the form. Refer to Guidebook for more guidelines.

Student's Name: _____ **Student ID #:** _____

Project Title: _____

***Plan B Project Type:** check applicable

Critical Literature Review _____

Research Project _____

*Plan C _____ Grant Proposal _____

Semester of PubH 7194 registration _____ Section # _____ Number of credits _____

***See Appendix B.2 (p. 81) for revised options**

Research Advisor: _____

Academic Advisor: _____

3rd Committee Member (outside EnHS) _____

1. Briefly describe your proposed project and its purpose.
2. State the key research question(s) and hypotheses (if applicable) to be addressed.
3. Briefly list your objectives for the project.
4. Briefly describe the project's methodology.
5. **Timeline and anticipated date of completion:**
6. Budget (if any)
7. Is this project being carried out in conjunction with a fieldwork (practicum) experience?
____ NO ____ YES

If yes- Preceptor Approval: _____ **Date:** _____

2.6 Master's Project Culminating Experience Plan B and Plan C options

For broader Plan B options see: **Appendix B.2 at the end of the guidebook page 81**

Guidelines for Masters' Projects resulting in Plan B Research Papers

The Plan B Research Paper will focus on pertinent questions or issues in environmental or occupational health. This Masters' Project option provides students with an opportunity to apply research skills to pertinent issues and questions under faculty supervision. For Public Health librarian Lisa McGuire guidance see: <http://www.screencast.com/t/ZTY2NjNkN>. For her course "How to Navigate A Master's Project" PubH 7200: <http://www.lib.umn.edu/course/PUBH/7200> New

New PubH librarian is

The component parts of a Plan B Research Paper are as follows:

- I. Abstract
- II. Introduction
 - A. Statement of the problem and its significance (historical background)
 - B. Review and synthesis of relevant literature (extent of written review dependent on nature of project)
 - C. Statement of conceptual framework, hypotheses and/or focused research questions, and the underlying rationale for each
 - D. Purpose of the study
- III. Methodology
 - A. Study design
 - B. Sample selection and description of sample characteristics - including nature of response and non-response, as appropriate
 - C. Description of data/information collection procedures, study site and instrumentation, as appropriate
 - D. Analytic technique used - quantitative, qualitative, as appropriate
- IV. Results (only the facts)
 - A. Presentation and analysis of data/information
- V. Discussion
 - A. Study limitations
 - B. Biases
 - C. Consistency with prior research
- VI. References (APA reference style or appropriate alternative)
- VII. Tables
- VIII. Figures
- IX. Appendices
 - A. Data collection instruments and letters
 - B. Institutional Review Board permission (as appropriate)

A Masters Project resulting in a Plan B Research Paper may, but need not necessarily involve the collection of primary data by the student. A Masters Project can be completed through secondary analysis of data as well. Projects may be undertaken in conjunction with ongoing faculty research, a student's class, or be carried out in conjunction with a fieldwork placement. Doing research at the placement site can create the opportunity for the student to systematically investigate issues or problems that are of direct relevance to his/her fieldwork organization. Such research in an "applied" mode will then provide an opportunity for the student to wrestle with the issues of knowledge and research utilization in practice or program development. However, this option must be discussed and approved by the Research and Academic Advisor and Preceptor early in the practicum experience and before beginning the Masters' Project itself

Guidelines for Masters' Projects resulting in Plan B Literature Review

The Plan B Literature Review will focus on pertinent questions or issues in environmental or occupational health. This Masters' Project option provides students with an opportunity to apply analytical skills in the synthesis and interpretation of the literature under faculty supervision.

The component parts of a Plan B Literature Review are as follows:

- I. Abstract
- II. Introduction
 - A. Statement of the problem and its significance (historical background)
 - B. Statement of focused research questions and the underlying rationale for each
- III. Conceptual framework
- IV. Methodology (how is the search of the literature being conducted)
- V. Comprehensive Literature Review including analysis and synthesis of
 - A. Data source characteristics (e.g. death certificates, survey data)
 - B. Type of study (e.g. case-control study, cross-sectional survey)
 - C. Target population, number in target population, sample selection and description of sample characteristics
 - D. Description of data/information collection procedures, study site and instrumentation, as appropriate
 - E. Analytic technique used (e.g. quantitative, qualitative)
 - F. Response rate including nature of response and non-response, as appropriate
 - G. Major Limitations
- VI. Conclusions and recommendations
 - A. Significance to the field of environmental and occupational health
- VII. References (APA reference style or appropriate alternative)

A Masters Project resulting in a Plan B Literature Review can be undertaken in conjunction with a faculty research project, student's class, or be carried out in conjunction with a fieldwork placement. Doing synthesis and analysis of the literature at the placement site can create the opportunity for the student to systematically investigate issues or problems that are of direct relevance to his/her fieldwork organization. Such review in an "applied" mode will then provide an opportunity for the student to wrestle with the issues of knowledge and information utilization in practice or program development. However, this option must be discussed and approved by the Research and Academic Advisor and Preceptor early in the practicum experience and before beginning the Masters' Project itself.

Human Subjects Protections

All students at the University of Minnesota who conduct any research using human subjects are required to submit their research proposal to the University of Minnesota Institutional Review Board (IRB) for approval prior to conducting their study. The approval process can take up to two months. This time must be accounted for when developing the proposal timeline. No contacts with potential or actual study participants, including recruitment, or other research may occur until final IRB approval. After the outline has been approved, each student should allow a minimum of six months to complete all the tasks involved in preparing the IRB application and getting approval, conducting the project and preparing the final draft.

See first *section* of this Guidebook book for IRB procedures and further information or IRB website.

Final Oral Examination

All Master's Degree candidates are required to pass a final comprehensive oral examination to be taken after submission of the Plan B project(s).

For MPH and MS candidates, a committee composed of a **minimum of three faculty members will examine students**. The examining committee will consist of at least two representatives from the EH major (the research advisor and academic advisor or reader) and at least one faculty member from outside the EH major/EnHS Division.

Students are expected to present a 20-30 minute professional seminar on their Plan B project(s) as part of the final comprehensive oral exam, followed by questions. This seminar will be open to guests and advertised to the faculty and students in the Division of Environmental Health Sciences two weeks in advance of the final exam date.

A closed meeting between the candidate and the examining committee immediately follows the seminar. This closed meeting may include further questions on the Plan B project(s), as well as general areas of environmental health. Upon completion of the examination, the candidate is then excused and a formal vote of the committee is taken on whether the candidate passed the examination. In order to pass the examination, the candidate must receive no more than one negative vote.

After the successful completion of the exam, committee members will sign the *Final Exam Report* (MS) or *Study Plan* (MPH). The signed *Final Exam Report* is returned to the Graduate School; the signed *Study Plan* is forwarded to the EnHS Major Program Coordinator.

Comprehensive Examination

MPH students must complete an oral examination as specified by the major. For EnHS the oral exam based on the a student's written result of the project-referred to as the master's thesis. All students are expected register S/N for PubH 7196 Master's project credits (3-5cr) and to hold a thesis defense in order to get a grade for the registration. A project not completed within the same term of registration can be continued by the instructor .with a "K" grade posted on the transcript.

2.7 Time Frame, Application for Degree and Graduation

New: Students must now complete and have the degree awarded within five calendar years after initial enrollment in the graduate program - effective January 2013. Previous maximum was 7 years.

With full time study the MPH can be completed in 2 years.

Graduation checklist

1. Submit completed Study Plan to the major coordinator **at least one semester** prior to the anticipated completion of coursework your coursework: http://sph.umn.edu/site/docs/degrees-programs/mha/MPH-MHA_StudyPlan.pdf
2. Submit to major coordinator an *Application for Degree* form by the end of the first business day of the month in which you intend to graduate: <http://policy.umn.edu/Forms/otr/otr177.pdf>
3. Complete all coursework and requirements by noon on the last business day of the month in which they wish to have their degree conferred.
4. Complete the Master's Project

5. Circulate the Master's Project paper and schedule the oral exam at least two weeks before the scheduled oral examination date.
6. **Notify Major Program Coordinator of the date of the oral exam at least two weeks prior to the exam.**
7. Submit a pdf copy of the Master's Project paper and abstract to Program Coordinator at enhsss@umn.edu

3. Appendix A: Annual Progress Review (Self-Assessment Report) Form for ALL degrees

All EnHS MS, MPH, PhD Students: Use this form to initiate an annual progress review meeting with your academic advisor.

Annual Review 2014-2015 End of Year Self-Assessment Report Form

Early in March schedule an appointment to meet with your advisor to discuss your accomplishments and goals for the following year. Complete this self-assessment form and return it [as a **Word doc attachment**-] to your advisor before your appointment by **April 11 or sooner**. In your appointment with your advisor review your self-assessment report form and ask for feedback. Your advisor will write a letter to summarize your meeting. A copy of the letter must be cc-ed MPH and MS/PhD directors (Matt Simcik and Betsy Wattenberg respectively) and the major coordinator. Your self-assessment report and advisor progress letter will become part of your file.. Include timeline and goals for following academic year

Fillable document follows

Student's Name:	Id #:
Advisor:	Degree sought:
Concentration rack:	Credits completed:
Entry term and year:	Term #:
Cum gpa:	Anticipated graduation term/yr:
MPH: Study plan: http://sph.umn.edu/site/docs/degrees-programs/mha/MPH-MHA_StudyPlan.pdf/	Field Experience (MPH or MS): http://www.sph.umn.edu/current/fe/
PhD Timeline and Forms: http://www.grad.umn.edu/students/doctoral/index.html	MS Timeline and forms: http://www.grad.umn.edu/students/masters/index.html

Answer questions below-use as many lines as needed and or attached additional pages if needed:

1. List below accomplishments this year:
2. List missed accomplishments this year:
3. Map timeline and goals for next year:
4. Degree program plan or study plan submitted? If not, when?
- 5.
6. For PhD students: When do you plan to begin and finish taking your thesis credits (PubH 8888).
7. **Comments to help your advisor give you feedback:**

Attach your finished Word.doc report and email it to your advisor, and DGS and program coordinator at nkosi001@umn.edu

Appendix B: Resources for MPH Students

Petition form: <http://policy.umn.edu/sites/policy.umn.edu/files/forms/otr190.pdf>

Field Experience Contract: <http://sph.umn.edu/students/current/fe/>

Study plan: http://sph.umn.edu/site/docs/degrees-programs/mha/MPH-MHA_StudyPlan.pdf

Self-Assessment Report Form: See Appendix A

Application For Degree: <http://policy.umn.edu/Forms/otr/otr177.pdf>

Graduation Checklist (Appendix G)

Timeline/Time Frame for MPH degree. See also Sample registration on page 54 of this Guidebook.

Year 1

- Take SPH core courses, EnHS courses and concentration courses
- Sign up for field experience
- Complete field experience

Year 2

- Take more cores courses and EnHS courses and electives
- Select committee for your defense
- File Study plan and application for degree
- Complete or revise study plan
- Complete field experience and master project
- Schedule and present your master's project

Appendix B.1: Environmental Health MPH Degree Competency Statements

The EH MPH major is central to understanding the interplay of biological, chemical, physical and behavioral environmental factors on human health or ecological balances. In addition to obtaining a broad background in core courses, EnHS students select a focus area based on their academic goals. EnHS graduate educational programs are organized into three core areas that reflect the inter- and multi-disciplinary scientific fields of environmental health as an essential component of the wider field of public health. Focus areas in Health Effects, Environmental Exposures, and Environmental Health Policy emphasize training in the assessment, management, and communication of environmental health hazards with a focus on preventing the occurrence and spread of disease. The core competencies promulgated by ASPH and APHA were considered in the development of our curriculum. Course grid available as a separate attachment.

Appendix B.2: *Options for Master's Projects/ of Culminating Experiences- MPH (PubH 7194) Plan B & Plan C

*From EPC Manual 2011-2012 page 7 – 9

*MPH Master's Plan B Project: *Modified and recommended by the SPH Education Policy Committee March 2011*

Types of culminating experiences* (PubH 7194)

Each student must complete a culminating experience where they are required to synthesize and integrate knowledge acquired in coursework and other learning experiences and apply theory and principles in a context that reflects an aspect of professional practice. The culminating experience must be used as a means by which faculty judge whether the student has mastered the body of knowledge and can demonstrate proficiency in the required competencies through written and oral presentation (see Appendix A, CEPH Accreditation Criteria).

The six options major programs can choose to offer to students are:

- 1) systematic review of the literature
- 2) primary collection of data or secondary analysis of data
- 3) analysis of a policy or professional practice issue
- 4) interdisciplinary practicum
- 5) comprehensive examination
- 6) a comprehensive knowledge and skill-based portfolio development

It is up to each program faculty as a whole to decide which of the six options are available for students in their program. Programs can decide to have one or a few options or all six.

Written and oral demonstration of the culminating experience

The School of Public Health complies with all aspects of the University of Minnesota's policy.

The written and oral demonstration of the culminating experience can be conducted for an individual student or a group of students. The accountable faculty person (advisor) renders the final grade.

A committee composed of at least three examiners of which two are faculty members from within the SPH for the written and oral demonstration of the culminating experience. The committees do not need to be the same for

both the written and oral portions of the culminating experience. Individuals holding the title of instructor, assistant professor, associate professor, or full professor are considered faculty members. The program will determine the qualifications of the third examiner which could be another faculty person from inside or outside the program or a qualified health professional in practice. Minimum qualifications of the third examiner include a master's or higher degree. In rare instances, the program may elect to waive this requirement if the most appropriate committee member has extensive relevant experience but no formal degree at the master's level or higher.

*These options are consistent with the new CEPH requirements for the culminating experience for graduate professional degree programs. May 24, 2011.

Detail on the culminating experience options

While it is up to the individual program to determine which options are available to their students and the specific requirements of each option, below are examples of how the different culminating experience options might be completed for both the written and oral components. While some page-length guidelines are given below, the written component should focus on the quality of the writing and synthesis of concepts and ideas, not on the number of pages.

Systematic Review of the Literature: This option allows students to synthesize published information on a research question or a public health problem. It requires a final written report of approximately 15-25 double spaced pages of text, not including title page, tables, figures, references, etc.

Primary Collection of Data or Secondary Analysis of Data:

This option allows students to learn about the research process and possibly be involved in primary research. It requires a final written report of approximately 15-25 double-spaced pages of text, not including title page, tables, figures, references, etc.

Analysis of a Policy or Professional Practice Issue: This option may take several forms, including a case study, policy analysis, historical or ethical inquiry, or others. This option allows review and synthesis of literature relevant to the public health topic and application of the gained knowledge toward a practical solution or a recommendation for, support of, or a change in, practice and/or policy. It requires a final written report of approximately 15-25 double-spaced pages of text, not including title page, tables, figures, references, etc.

Inter-disciplinary Practicum: This option may take several forms. It can build on the *field experience* with focus on a specific topic area to inform the practice community. It can also be an individual or team project, with a defined community organization and/or research group, where the individual or team negotiates a set of "deliverables" based on the real-world needs of the community or research partners. Deliverables may include: literature reviews, a community assessment report, a community forum, a program planning document, a grant proposal, policy briefs, intervention materials, campaigns, programs, curricula, or an evaluation report. The group or individually written report is the deliverable and requires an interdisciplinary approach to a solution.

Comprehensive Examination: The exam evaluates a student's comprehension, application, and synthesis of principles and theory from the core competencies of public health (ASPH MPH Core Competency Model). Students can use a passing score on the National Board of Public Health Examiners (NBPHE) exam for the comprehensive exam. The oral portion of this culminating experience option could be an individual presentation to a small or large group or a poster presentation on a topic related to the student's field experience requiring synthesis and application of public health. The exam could also be in conjunction with a capstone course in which students synthesize and integrate knowledge acquired in their coursework.

Portfolio Development: This option requires a synthesis/analysis of a student's individual program of study and skill and knowledge formation in their program of study by developing a portfolio of their graduate work. Specific objectives might be to

consider how various aspects of their course work inform their summary evaluation of the field experience and describe how course work, the field experience and other activities relate to explicit competencies for the program, as well as specific career goals and objectives. Students can use their original statement of purpose, field placement experience, course work within the SPH and their program, competencies, and related additional work, research or internship experiences when compiling evidence of accomplishment of the objectives and preparing the reflective summary paper. The oral portion of the options above could be an oral presentation of the student's report in either a small group setting or larger seminar format or a poster presentation, such as at SPH Research Day. It is up to each program faculty as a whole to decide the exact nature of the oral portion of the culminating experience. Students must complete a master's project, demonstrating familiarity with the tools of research or scholarship in the major, the capacity to work independently, and the ability to present the results of the investigation effectively. The master's project should involve a combined total of approximately 120 hours (the equivalent of three full-time weeks) of work. The major faculty specifies the nature and extent of the options available to satisfy this requirement and determines whether the requirement is to be satisfied in conjunction with or independent of the coursework in the student's major.

3.9 Comprehensive Examination

Students must successfully complete a written and/or oral examination as specified by the major.

Modified and recommended by the Education Policy Committee March 2011

Approved by the Dean June 2011

Appendix C: Career Services Resources

[HTTP://WWW.SPH.UMN.EDU/CAREERS/](http://www.sph.umn.edu/careers/)

It is the mission of Career Services at the University of Minnesota, School of Public Health, to foster the career development of our students and alumni by providing them with the tools and resources necessary to successfully manage their careers, beginning when they first enroll in the SPH and continuing as they become established public health professionals.

Serving -STUDENTS & ALUMNI:

- Improve resume and cover letter writing skills.
- Hone interviewing and negotiating strategies.
- Seek graduate assistantships or internships, while enrolled in the SPH.
- Explore career possibilities.
- Begin or carry on their job search.
- Explore salary statistics for public health program areas.

Offers- JOB SEARCH RESOURCES:

- Job Postings, specifically for public health students.
- GoldPASS, the University-wide job postings system.
- Links to other internship and job search websites

Assists with- CAREER DEVELOPMENT RESOURCES:

- Online Career-Related PowerPoint Workshops
- U of MN Libraries - Careers & Jobs Development Resources
- InterviewStream for students to practice their interviewing skills.
- A month-by-month Career Calendar
- Tip Sheets to help you with your job search.
- A well-established Mentor Program

Appendix D

Graduation CHECKLIST- All degrees

You **must** complete the following steps or your degree clearance may be delayed by one month or more.

- MPH: Turn in your *Study Plan* if you have not already done so. This form is due the semester before you plan to graduate but if you missed this deadline you must turn in this form immediately. This form is available-use attached or at http://sph.umn.edu/site/docs/degrees-programs/mha/MPH-MHA_StudyPlan.pdf

MS/PhD: Complete and submit your degree plan: <http://policy.umn.edu/forms/otr/otr198.pdf>

- MPH ONLY:** Turn in the *Application for Degree Form* by the first University business day of the month you plan to graduate. This form is available at <http://policy.umn.edu/Forms/otr/otr177.pdf>

MS/PhD: Follow Steps here: <http://www.grad.umn.edu/current-students/gssp>

- Check your transcript to make sure your field experience grade has been submitted. A grade of “K” is not a final grade so if you see this grade you should contact your instructor to find out why your final grade has not been submitted

- After your oral defense, you should check your transcript again to make sure your project advisor has submitted your final grade. A grade of “K” is not a final grade so if you see this grade you should contact your project advisor to find out why your final grade has not been submitted

- Complete the *Graduate Follow-Up Survey* at <https://idp2.shib.umn.edu/idp/umn/login> ----

- Provide your Major Coordinator with an electronic copy of your final project by e-mail. This paper is due by noon on the last business day of the month you plan to graduate.

Reminders

- Attend Grad Fair where you can order your Cap and Gown and meet with Financial Aid – March XX, Coffman Union (unless you have walked already.)
- Register for Commencement - see SPH website (unless you have walked already).
- Clean out locker
- Consider taking the Public Health Certification Exam
- Update your contact info. so we can keep in touch
- Make an appointment with Career Services for a final review of your resume, interview practice or other job search guidance, Call 612-626-3500.
- Join the SPH Alumni Society
- Lifetime University e-mail. Keep and use your U of MN email address. You can use your U of M e-mail address for personal or professional purposes even after you graduate. Imagine never having to subscribe to an e-mail Service includes full access to three features:

University Portal <https://www.myu.umn.edu>

