



Environmental Health Sciences

2018-2019 PhD degree Student Guidebook

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SCHOOL OF
PUBLIC HEALTH

UNIVERSITY OF MINNESOTA

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) |
| *Major Chair (MPH) – Matt Simcik, PhD | 612.626.6269(msimcik@umn.ed) |
| Major Program Coordinator – Khosi Nkosi or (nkosi001@umn.edu) | 612 625.0622 (enhsss@umn.edu) |

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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1. Division of Environmental Health Services (EnHS)

1.1 Division Resources

EnHS has a special group forum email for all PhD students (enhsphd@umn.edu.)

EnHS websites:

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

Websites relevant to PhD only

- [PhD Program Curriculum](#)
- 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](#)
- Have news to share? Website questions or submissions should be sent to Joy Archibald at archi009@umn.edu

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 |
| Kim Anderson, PhD Industrial Hygiene | Assistant Professor | and06109@umn.edu | 624-2316 | 1230 Mayo |
| Susan Arnold, PhD, CIH, FAIHA Industrial Hygiene and Exposure Science and Sustainability Institute | Assistant Professor Industrial Hygiene | Arnol353@umn.edu | 624-6222 | 1239 Mayo |
| <u>Silvia Balbo, PhD</u> Toxicology | Assistant Professor | balbo006@umn.edu | 624-4240 | 2-145 CCRB |
| Jesse Berman, PhD Multidisciplinary | Assistant Professor | berma186@umn.edu | 626-0923 | 1228 Mayo |
| <u>Timothy Church, PhD, MS</u> Env. and Occupational Epidemiology | Professor | churc001@umn.edu | 626-1494 | 1162 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 |
| Petrona Lee, PhD, MS Food Safety | 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 |
| Claudia Munoz-Zanzi, DVM, MPVM, PhD Infectious Diseases | Associate Professor | munozzan@umn.edu | 625-6953 | 1245 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 |
| Ramirez, Marizen PhD Occ. Injury Epi and Prevention | Associate Professor | mramirez@umn.edu | 624-3143 | 1210 Mayo |
| <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 | simcik001@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 |
| <u>Elizabeth Wattenberg, PhD</u> Environmental Toxicology | Associate Professor, DGS for MS/PHD | watte004@umn.edu | 626-0184 | 1110 Mayo |

Staff Directory

| Name | Title | E-mail | Phone | Office |
|-----------------|---------------------------|------------------|----------|-------------|
| Shelly Ring | Finance Professional | bacig007@umn.edu | 626-0900 | 1260 Mayo |
| Bridget Brennan | Financial Specialist | brenn006@umn.edu | 624-6993 | 1260-2 Mayo |
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| Joy Archibald | Web Coordinator | archi009@umn.edu | 626-1440 | 1150 Mayo |
| Khosi Nkosi | Major Program Coordinator | enhsss@umn.edu | 625-0622 | 1215-2 Mayo |
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| Joann Larson | Grants Coordinator | larsonjm@umn.edu | 626-4512 | 1260-4 Mayo |
| | Student Assistant | | 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 EnHS Degree Programs

Degree Options: MPH, MS, and PhD degrees and areas of emphasis or concentrations.

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)
- Environmental Toxicology (PhD)

Some concentrations are funded through a NIOSH training grant. For more details see:
<http://www.mcohs.umn.edu/>

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

- JD/MPH with the Law School
- PhD/MD with the Medical School

1.3 Advising, Roles, and Expectations

The School of Public Health and the University of Minnesota are committed to providing 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. EnHS is a part of that network.

- **University of Minnesota:** Extensive guidelines have been provided and posted to the web and university policy library about expectations for both students and faculty [Read More], and SPH and EnHS.
- **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 types of questions. Coordinator endeavors to keep abreast of policy and procedural changes with SPH and the University as a whole.
 2. **Faculty Academic Advising:** general guidance on topics related to program/major including, but not limited to: program focus (includes help with identifying appropriate course work options), advice on professional memberships or other extracurricular activities to prepare students meet their career and professional goals as needed and available. Students find their faculty advisors, coordinators and **career services staff** all helpful in answering parts of these questions.
 3. **Career and Professional Development- services provided university-wide:**
Building Success in Graduate School and Beyond: <http://www.grad.umn.edu/current-students/apd>
No matter what your career plans are, your graduate school experience **must encompass more** than just coursework, research, presentations, and publications. The Graduate School provides programs, resources, and events to help you with every step along the way—from identifying potential career paths, to developing skills to compete for them, to managing your career. [Click to Read More]
 4. **Prelims and Dissertation Advising:**
Specific and targeted direction on milestones, projects and PhD dissertation guidance including, but not limited to development, completion and in some cases publications. Your faculty advisor will assist you in developing a direction for your project or dissertation.
 5. **Other Important Networks:** Graduate School Resources; Graduate Education Academic and Professional Development Resources; Connections with the Office of Equity and Diversity [click to read more]

GRADUATE ADVISING EXPECTATIONS FOR STUDENTS

All EnHS students are expected to:

Regularly read and respond to University email (ideally once per day); university email accounts are 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](#). (live link)

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. Read more.

PhD Academic Advising

Faculty will

1. Serve as academic advisors and will accept advisees from all majors in which they participate.
2. Meet with advisees **regularly**; write an annual review letter at the end of each academic year to inform students of their progress or lack of timely towards PhD milestones.
3. Respond in a timely manner to requests from advisees for meetings or responses by telephone or e-mail.
4. Provide guidance to students about coursework, fieldwork, project selection, and career planning.
5. Make students feel welcome to the Division.
6. Act as a contact person for the student and help direct the student to the appropriate resources in the division and beyond given particular issues or problems the student may have.
7. Act as a resource for the student when bureaucratic or political problems in the University, School or Division may be interfering with the student's effective progress toward his or her degree. University resources to consult with: Office of Conflict Resolution: <http://ocr.umn.edu/>; Student Mental Health Resources: <http://www.mentalhealth.umn.edu/>

GENERAL GUIDELINES:

Given that most faculty members do not keep track of changes in University and College procedural rules, below are areas for which academic advisors and administrative advisors work collaboratively:

Administrative Advisors:

- College and University Rules and Regulations
- Guidance to course planning and course changes
- Petition Process for Transferring courses or requests for exception
- Student Progress, Milestones, Forms and Degree Clearance
- And more....

Academic Advisors:

- Concentration requirements, electives, prelims and dissertation guidance
- Approving electives
- Career planning in conjunction with the careers services staff and office
- Special approvals- transfers, etc. Discuss appropriateness of choice considering student's emphasis in program.

PhD. Students Guidelines for Changing Advisors

Many Ph.D. students shift their courses of study and focus over their graduate careers, but doing so does not necessarily require a change in advisors. Faculty advisors can facilitate students' academic development, which may include changes in intellectual focus, by working directly with them or by encouraging them to gain experience with other faculty members (e.g., through research or teaching assistantships or grant-writing opportunities). Sometimes students work more closely with one (or more) members of their committees than with their advisors. Faculty advisors can also suggest changes in committee membership to accommodate a change in dissertation focus.

Once Ph.D. students have begun work on their dissertation, changing advisors should be rare, and limited to circumstances of personality conflicts, major ethical problems, or substantial shifts in areas of interest. Students wishing to change graduate advisors should consult the DGS. Likewise, faculty who are considering a change in their role as an advisor should consult with the DGS. Changes in graduate advisors should be approved by the DGS and forwarded to the major coordinator.

1.4 EnHS Core Program Curriculum

PhD students who have not taken the equivalent of Environmental Health Science masters may be required to take our Environmental Health core course and Epidemiology and Ethics courses. PhD students should consult with their faculty advisor to determine their curriculum and course of study.

General Public Health Core Coursework [expected if not taken in a previous master's program]

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

| <i>Course</i> | <i>Title</i> | <i>Offered</i> | <i>Credits</i> |
|--|--|----------------|----------------|
| <i>PubH 6102</i> | Issues in Environmental and Occupational Health | Any term | 2 |
| <i>PubH 6109</i> | Environmental Health: Science, Politics and Policy | Spring | 4 |
| <i>One of the following courses in Epidemiology</i> | | | |
| <i>PubH 6341</i> | Epidemiologic Methods I | Any term | 3 |
| | | Fall | 3 |
| <i>One of the following courses in Biostatistics</i> | | | |
| <i>PubH 6414 or</i> | Biostatistical Literacy (in class and online) | Any term | 3 |
| <i>PubH 6450 or</i> | Biostatistics I | Fall/Spring | 4 |
| <i>PubH 6451</i> | Biostatistics II | Spring | 4 |
| <i>One of the following courses in Ethics ②</i> | | | |
| <i>PubH 6742*</i> | Ethics in Public Health: Research and Policy | Any term | 1 |

*PubH 6742 meets the Graduate School requirement for Ethics training for Research Assistants)

Responsible Conduct of Research

The Graduate School requires all PhD students to receive training in the responsible conduct of research. This includes exposure to the concepts and issues surrounding conflict of interest, authorship, code of conduct, use of animal and human subjects in research, data management, intellectual property and copyright, history of ethics in research, plagiarism, fiscal responsibility, mentorship, environmental health and safety, and social responsibility. This training must occur once during the student's degree program. Taking PubH 6742 will satisfy the Graduate School requirement.

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 | 6414 Lec 9:45 - 11:00 TuTh |
| 10:10 | | VMED 5180 9:45 - 11:00 TuTh | | | |
| 11:00 | | 6450 Lab 10:10 - 11:00 | | | |
| 11:15 | | 6020 11:15 - 12:30 TuTh | | 6020 11:15 - 12:30 TuTh | |
| 12:05 | | | | | |
| 12:20 | | 6450 Lab 12:20 - 1:10 | 6414 Lab 12:20 - 1:10 | 6450 Lab 12:20 - 1:10 | 6192/6193 12:20 - 2:15 WeFr |
| 1:10 | | | | 6192/6193 12:20 - 2:15 WeFr | |
| 1:25 | 6101/6102 1:25 - 3:20 MW (1st Half) | 6100 1:25 - 3:20 MW | 6751 1:25 - 3:20 MW (2nd Half) | 6450 Lec 1:25 - 3:20 TuTh | 6134 1:25 - 3:20 TuTh |
| 2:15 | | | | | |
| 2:30 | | | | | |
| 3:20 | | | | | |
| 3:35 | | | | | |
| 4:25 | | 8161 4:25 - 5:15 | 6181 3:30 - 5:30 | 6341 (Sec 1) 3:35 - 4:50 TuTh | 6320 Lab 3:35 - 5:30 |
| 4:40 | | | | | |
| 5:30 | | | | | |
| 5:45 | 6162 5:45 - 7:40 | 6104 6:00 - 8:00 | 6450 Lab 5:45 - 6:35 | 6115 4:40 - 5:30 | 6341 (Sec 2) 4:15 - 5:30 TuTh |
| 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 MW | 6451 Lec 10:10 - 12:05 MW | 6182 10:10 - 1:10 | 6150 10:10 - 1:10 | 8120 9:00 - 11:00 |
| 11:00 | | | | | |
| 11:15 | | | | | |
| 12:05 | | | | | |
| 12:20 | | | | | |
| 1:10 | | | | | |
| 1:25 | | | | | |
| 2:15 | | | | | |
| 2:30 | | | | | |
| 3:20 | | | | | |
| 3:35 | 6160 3:35 - 4:50 MW | | | | |
| 4:25 | | | | | |
| 4:40 | | 6173 4:40 - 6:40 | 6342 4:00 - 5:15 TuTh | 6100 4:00 - 6:00 (First Half) | 6183 4:00 - 6:00 |
| 5:30 | | | | | |
| 5:45 | | | | | |
| 6:35 | 6101 6:00 - 8:00 (First Half) MW | 6133 5:45 - 7:45 | 6101 6:00 - 9:00 (First Half) MW | 6131 6:00 - 8:30 | 6130 5:00 - 7:00 |
| 6:50 | | | | | |
| 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 and Spring : online

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

6100 Topics: Environmental Health

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

New course offerings or topics of interest in environmental health.

Fall 2018 Public Health Entomology 2cr (Oliver)

Pathogens transmitted by arthropods, particularly mosquitoes and ticks, inflict human disease all over the world. These pathogens represent a broad diversity of persistent foes as well as emerging challengers. This course will provide an introduction to methods used in the field and laboratory for performing arthropod and pathogen surveillance, identification, and other investigations relevant to public health.

Fall 10:10 AM-12:05 PM MW

Fall 2018 GIS and Spatial Analysis for Public Health 3cr (Berman)

This course is an introduction to Geographic Information Systems (GIS) and its application for public health research. Classwork will be presented in the form of health related case studies based on research topics pertinent to students in the School of Public Health, where we will use GIS to formulate and address scientific hypotheses. Specifically, the ArcGIS software will be presented as a tool for integrating, manipulating, and displaying spatial health data. Students should leave this course with knowledge to acquire spatial data, visualize geographic trends, and formulate scientific hypothesis for epidemiological applications.

Fall 09:05 AM-10:25 AM MW

PubH 6100 Spring 2018

- Public Health Biology (Hedberg - pending)

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 or AEH major)

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 :1:25 pm-3:20pm MW (first half of semester-in person) – **Simcik**

Fall, Spring, Summer : Online option (Lee)

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. Meets with 3106 Making Sense of Health Studies lecture. Fulfills public health minor requirements for CLA.

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

6109 Environmental Health: Society, Politics and Policy

(4cr) **McGovern and Wattenberg**

We live with various hazards, ranging from chemical and physical to social and behavioral hazards. This course focuses on how assessment of exposure to hazards and the adverse health effects they may cause is used to evaluate environmental health risk, and how environmental policy is developed to protect public health. Students will explore the forces and strategies that contribute to the development of environmental health policy, including the roles of scientific evidence, strategic decision-making, and the political process.

Spring: T and Th 5:30pm-7:30 pm

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.

Fall or Spring: 3:30pm-5:20pm W – see course schedule

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: 10:10am -12:05pm M W

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 ON HOLD

(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) **Toscano, Alexander**

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 Tu & Th (first half of the semester)

6135 Job Search Strategies and Career Professional Development

(1 cr) **Massaglia**

This course is intended for students who are interested in learning how to develop a meaningful career in Public Health and related fields. Students will learn skills that they can apply to finding an Applied Practice Experience or internship, and to finding employment. The skills include the following: assessing self-awareness/strengths, researching job/internships and employers, relationship-building (networking), interviewing, self-marketing (e.g. resumes, cover letters), identification of professional goals, and professionalism in the workplace. The focus is primarily non-academic careers but some class content and work may also apply to academic job searches and careers.

Spring 2:30 pm- 4:10 pm T (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) **Anderson**

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 **Applied Practice 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

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 Tu & Th

6159 Principles of Toxicology I

(2cr) Toscano

This is the first of two courses that covers fundamental principles of exposure, uptake and metabolism. This course focuses on identifying the mechanisms and effects of chemical, biological, and physical agents on human health. Discussions will focus on the action of environmental agents and how they interact with humans to cause disease. Emphasis is on understanding the principles of toxicology as they apply to understanding toxicant-human interactions.

Fall: 6:00 pm- 8:00 pm M

6160 Principles of Toxicology II (formerly “Systems of Toxicology” or “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 Tu Th

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

PubH 6172 Industrial Hygiene Applications

(2 cr prereq grad student or EH major, IH specialty or equiv preparation or #) Arnold

In this course will explore and apply the basic principles that inform the industrial hygiene field-- recognition, evaluation and control of occupational health and safety hazards. Activities will be designed to

provide practice applying these concepts to specific workplace health and safety problems.

Spring: 9:02-11:00am –every other year; odd year spring

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 every other year; even year spring

6174 Control of Workplace Exposures

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

Occupational and environmental health specialists spend much of their time recognizing and evaluating potential health or safety hazards. However, these activities, by themselves, do not alleviate problems. Control measures must be implemented to reduce the risk of disease or injury among exposed populations. This course investigates qualitatively and quantitatively the options for reducing human exposure to airborne hazards, particularly in the workplace. Among the options considered will be general and local exhaust ventilation, air pollution control equipment, and personal protective equipment.

Spring 4:40 – 7:40 PM M (odd year spring) every other year

6175 Environmental Measurements Laboratory

(2 cr; prereq PubH 6171 or #) **Raynor, 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 Every other year; even year spring

PubH 6177 Nanotechnology Health & Safety; Student Option

(1 cr;) **Raynor**

As defined by ASTM, nanotechnology is the emerging field of “technologies that measure, manipulate, or incorporate materials and/or features with at least one dimension between approximately 1 and 100 nm”. Toxicology studies have indicated that exposures to nanomaterials present unique health risks not encountered with their parent materials. After completing this course, students will understand how the fundamental concepts and methods of occupational hygiene are applied specifically to nanomaterials.

Fall: 10:10 AM-12:05 PM M

6181 Surveillance of Foodborne Diseases and Food Safety Hazards

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

Surveillance of foodborne 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) **Raynor**

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) every other year odd fall

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) every other year; odd year fall

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 Integrative Learning Experience (ILE): Environmental Health

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

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

Fall, Spring, Summer

PubH 7195: Culminating Experience for MS students only

7196 Applied Practice Experience (APEX): Environmental Health

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

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

Fall, Spring, 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 Environmental Health and Safety Research Seminar

(1 cr; prereq EH major, OIP RTP 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

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, 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. PhD Degree Program

Maintaining Active Status in the Graduate School -Registration Requirements

PhD students must be registered each fall and spring semester each year to remain active in the Graduate School. Graduate School also offers a Leave of Absence Option (LOA) for students need to stop the clock and not be active for extenuating circumstances. See policy here:

<http://policy.umn.edu/education/readmissionloa>

Use of Grad 999 to maintain active status is restricted and requires DGS approval only when a student is close to finishing (requires a timeline signed off also by the faculty advisor. This exception is granted on a one-time-only basis

Students are advised to read carefully the Graduate School rules regarding Graduate School registration polices as they relate to active/inactive students. Active status is required for students to be able to register for courses, take exams, submit milestone forms, file for graduation, or otherwise participate in the University community as a Graduate School student. Students must then continue to register every fall and spring term until they complete all degree requirements and graduate.

It is the responsibility of each student to meet all degree requirements published by the Graduate School at: <http://www.grad.umn.edu/students/doctoral/index.html>

New forms and new policies are constantly being implemented improve the student experience and the creation of a comprehensive electronic record for the student. This came with the creation of the Graduate Education Office which was part of the restructuring of the Graduate School.

2.1 Program Curriculum, Milestones and Minors or Supporting Field

Program Curriculum

Program Curriculum is predetermined in consultation with the student's faculty advisor and or project advisor. In some cases doctoral students may need to fulfill the requirements of the master's program in the area of emphasis. Minimum 24 course credits required.

Graduate School Course Credits Requirement

PhD students must complete a minimum of 24 course credits with a residency of 12 credits taken **after** being enrollment in the program. Students may use the other 12 credits from transferred coursework or courses from a supporting field or minor from outside the major.

Milestones

PhD Students can find a comprehensive list of milestones on the GSSP website – consists of 12 steps to be completed **sequentially**: Read more: <https://www.grad.umn.edu/current-students-graduate-student-services-progress/doctoral>

Step 1: PhD students are expected to file a Grade Degree Plan (GDP) at least by the end of the second year in the program. This has to be done and approved by the Graduate School before the student can move on to **Step 2** (Selecting a committee- this is online form) Student select a prelims committee with the help of the advisor

For now the GDP is a form available on the onestop via Grad School Support and Progress Office (GSSP) office. In the next year– this will become an online form connect directly to a student transcript. **It will then be call the Graduate Progress Audit System (GPAS).**

2.2 Course Transfer, Substitutions, Petition and Waivers

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.

With approval of the advisor and Director of Graduate Studies, 12 credits of graduate credit by non-admitted students may be transferred to the doctoral program; see the transfer of credits section in the Graduate School Bulletin for transfer from other graduation institutions.

Course substitution and waivers are approved by consultation with the student advisor via a petition form found [here](#):

https://onestop.umn.edu/sites/onestop.umn.edu/files/forms/_graduate_student_petition_gdp.pdf

2.3 PhD Forms, Degree Progress Checklist

Please visit the links below for up-to-date information, forms and policies and procedures. When in doubt check with your major coordinator.

<http://www.grad.umn.edu/students/doctoral/index.html>

Students are expected to file an official degree plan form at least two terms before their preliminary oral exam. All Graduate School forms can now be downloaded at the link above under Step 1.

2.4 Process for Declaring a Minor

Many other degree programs throughout the University offer minors that can be pursued our students. For further information about the availability of and requirements for a minor in a specific degree program, see the degree program descriptions in the Graduate School Catalog. Some minors are not associated with a major. These minors are listed in the Minors Only section of the Graduate School Catalog. To request a minor, **CLICK HERE**

For a supporting field there is no formal paperwork- just an agreement between you and your advisor.

2.5 Thesis or Dissertation Credits PubH 8888 (24cr minimum required credits)

All PhD students must complete 24 thesis credits (PubH 8888). As of January 2012 a PhD student already working on their dissertation research while fulfilling other program requirement may write to the DGS requesting exception to register early for thesis credits. Contact your advisor and the DGS and or Program Coordinator for guidelines to an exception to the policy.

Grad 0999 is not automatically available for EnHS students to register for in order to maintain active status. The DGS may approve use of Grad 999 as a one-time only option after advisor indicates that a student is on target to complete in that semester.

2.6 Preliminary Written and Oral Exams and Other Requirements

All doctoral students are required to pass a written and oral examination. The results of the written examination are reported by the primary faculty advisor to the program coordinator (**via email** at nkosi001@umn.edu) as soon as the results are decided upon. The preliminary oral examination is **scheduled online** initiated by the student and a form will be sent to the student after graduate school approves the prelim written results and that Grad School has determined that all other requirements have been met. After successfully passing the oral preliminary exam the student is said to have attained advanced status and is eligible to begin registering for Advanced Status 1 credit FTE registration (PubH 8444) or continue to register for PubH 8888 if fulltime status is not needed at that time.

Guidelines for the Preliminary Written Exams - varies from program to program. Work in conjunction with your faculty advisor to determine how your program prefers to do this.

I. Introduction

The purpose of the written preliminary exam is to help determine if a student is prepared to pursue independent research in Environmental Health. This exam consists of a research proposal written by the student. Individual program areas may also require a take-home exam in addition to the research proposal (please see the note at the end of this document for an explanation of the take-home exam).

The research proposal will be written in the format specified by a granting agency, such as the NIH, NSF, or EPA. The student and the advisor will select the appropriate granting agency. The proposal should demonstrate the student's ability to do the following: 1) Formulate a thoughtful and logical approach for investigating a research problem; 2) Understand advantages and limitations of the experimental approach; 3) Master the literature in a field of research in Environmental Health; and 4) Write a clear, well-organized research proposal.

The examining committee will consist of three members of a graduate faculty. At least two committee members must be members of the graduate faculty of Environmental Health, and at least one of these two must be a regular faculty member of the Division of Environmental and Occupational Health. The thesis advisor may not be a member of the examining committee, except when the student has both an advisor and a co-advisor. In this case, an advisor or co-advisor who does not directly guide the student's research may be a member of the examining committee. While the thesis advisor may guide the student as he or she prepares the research proposal, the advisor must be careful not to write the proposal for the student. When the student's research proposal is based on the advisor's research project, the advisor should write a letter, to be included with the research proposal, that indicates which aspects of the student's research proposal are original and which are adapted from other proposals. The reviewers will evaluate the research proposal on both form and content, considering the guidelines listed in the following section. The proposal will be graded as either pass, pass with revisions, or fail. If the grade is a pass with revisions, the student will be given three months to revise and resubmit the research proposal. Students are encouraged to consult with the advisor and committee members while revising the research proposal. The revised proposal will be graded either pass or fail.

Grading will be done as follows. First, each committee member will read and grade the proposal. The reviewers are also encouraged to write constructive criticism of the proposal. Next, the committee members will meet to discuss the proposal and agree on a final grade. The thesis advisor will be present at this committee meeting and will act as a non-voting chair of the committee. As chair, the advisor is responsible for convening the committee meeting and for meeting with the student to discuss the committee's comments on the proposal and to guide the student's efforts at any revisions.

II. Guidelines for Grading the Preliminary Written Exam

A. Content

1. Does the proposal state a non-trivial, original hypothesis or research objective about an unsolved problem within the area of the student's thesis research? Does the proposal also discuss alternative hypotheses?
2. Are statements in the body of the proposal adequately supported with data, citations, etc.?
3. Does the student discuss data gaps?
4. Is there a thorough discussion of previous research?
5. Is the significance of the proposed research clear? For example, is it clear how this study will advance scientific knowledge and affect the concepts or methods that drive this field?
6. Is there a clear description of methods and experimental approach?
7. Is there a clear and thorough discussion of data analysis and interpretation? Is there an explanation of the most important expected results?
8. Is there a demonstrated understanding of the larger perspective of how this research fits into or makes a contribution to broad fields, including public health and environmental and occupational health?
9. Does the student discuss future research directions?

B. Form

1. Readability

- a. Is the proposal well-organized and easy to follow?
 - i) Is the hypothesis or research objective clearly stated in the introduction?
 - ii) Is there a preview of the manner in which the hypothesis or research objective will be addressed?
 - iii) Does the background information inform the reader without overwhelming or confusing him or her?
 - iv) Is the proposal written clearly and concisely?
 - v) Are the mechanics of writing correct (spelling, grammar, punctuation, etc.)?
 - vi) Are footnotes and references present and correctly cited?
 - vii) Are data presented clearly in figures and tables with informative figure legends?

2. Format

The proposal must conform to the instructions provided for each student. The student will be given instructions that will specify page limits, margins, font size, type density, line spacing, format of citations and references, etc. A copy of the instructions will also be given to the examining committee.

III. Tips for Students

A successful research proposal will convince your committee of the following:

- Your proposed research addresses important questions in your field.
- Your proposed research plan will address those questions convincingly.
- You know and understand the contemporary research literature in your field.
- You are well-qualified to conduct this research. For example, you have sufficient mastery of all the relevant techniques or methods needed to execute your research plan, or you have a reasonable plan to learn or develop the relevant techniques or methods; you have preliminary data to demonstrate your expertise and the likely success of the proposed research; you have consultants and collaborators to assist you in areas where you lack expertise.
- You have access to all the equipment, reagents, or other resources needed to execute your research plan.
- You will analyze and interpret your data thoughtfully and honestly.
- You will complete your studies within the proposed timeline.

Note: The written preliminary exam will have, as a minimum, the written research proposal, and in some instances (at the discretion of the thesis advisor) an additional take-home exam. The student will have to obtain a "pass" grade on both components of the preliminary exam.

This take-home exam will be coordinated by the thesis advisor, and will comprise a series of questions posed by the examining committee. The thesis advisor will also obtain clear guidelines from the examining committee on the expectations and the requirements for obtaining a pass grade for each question. Grading of each question will be done by the committee member who posed that specific question. The grades for individual questions will be synthesized by the thesis advisor into an overall grade for the take-home exam.

Criteria for Questions:

- a. The exam would typically be of the "open-book", "take-home" variety.
- b. Questions should test the ability of the student to synthesize knowledge from the broad area of environmental health as well as more specific program areas.
- c. The question should not be confined to the prior coursework undertaken by the student, and indeed should test the student for his/her potential to become a Doctor of Philosophy. Thus extra reading may be recommended for the student on advanced concepts that may not have been dealt with in routine coursework.

2.7 One Credit FTE Registration (PubH 8444)

Students who have completed all their course requirements including passing both the prelim written exam and the prelim oral exam (have attained candidacy in their PhD program) and still need to maintain full-time status (minimum 6cr course load) **may** request to register for PubH 8444 a One Credit FTE Registration for student with advanced standing. This is a registration exception that is overseen by the Department of Education. To be compliant a student must complete the required form "Application for ADVANCED DOCTORAL STATUS" each semester and obtain advisor and DGS signatures and file the form with the program coordinator **BEFORE** registering. Form can be downloaded from here: <http://policy.umn.edu/sites/policy.umn.edu/files/forms/otr195.pdf>

NOTE: The prelims MUST be completed in the previous semester in order to be eligible for this exception.

2.8 Time Frame, Annual Review and Satisfactory Progress Requirement

Effective January 2012 all requirements for doctoral degrees must be completed and the degree awarded within five to eight calendar years. For more on new revised policy see: <http://www.grad.umn.edu/students/doctoral/index.html>

Annual Review Requirement and Satisfactory Progress

University policy requires that students meet with their academic advisors regularly and at minimum at least once a semester. In the spring student and faculty advisor shall meet with the purpose of determining if goals have been met for the current year and set goals for the upcoming year. All students must submit a Self-Assessment Report to their advisor, DGS and major program coordinator by April 15 to receive timely feedback about satisfactory or unsatisfactory progress. **See Appendix A of this Guidebook.** Faculty advisor will then write a comprehensive review letter to the student with a copy to DGS.

Overview of Requirements:

- 24 course credits (12 credits can be transferred credits; 12 credits required for residency after enrolling in the program); 24 thesis credits (PubH 8888).
For steps and forms required below refer to:
<http://www.grad.umn.edu/students/doctoral/index.html>
- Prelim written, Prelim oral exam (in this order) and final oral exam.
- Final oral exam

Other Requirements:

- Consult with your advisor about specific required and elective courses.
- All requirements for the PhD must be completed and the degree awarded within 5-8 years. If otherwise, file for an extension- follow these procedures.
- Students are expected to submit the Degree Program at least one term prior to the Preliminary Oral Exam.
- Submit the Preliminary Written Exam form at least one week before the Preliminary Oral Exam.
- Schedule the Preliminary Oral Exam **online** (NEW) with The Graduate School at least one week in advance of the exam.
- The Preliminary Oral Exam must take place at least one academic term (15 weeks) before the Final Oral Defense.
- Submit the signed Preliminary Oral Examination Report form within one working day of completion of the Prelim Oral exam.
- Submit the signed Thesis Reviewer's Report form and schedule the Final Oral Defense at least one week prior to the exam.
- Return the signed Final Oral Examination Report form no later than one working day following completion of the Final Oral Defense.
- For dissertation submission and formatting refer to:
<http://www.grad.umn.edu/sites/grad.umn.edu/files/thesis%20formatting.pdf>

2.9 Final Oral, Committees, Dissertation Formatting, Degree Clearance

Students are to work closely with the faculty advisor and the Graduate School to ensure that policies are being followed correctly.

Final Orals must be completed within the approved timeline from start to start - 8 years.

Degrees are granted at the end of each month. To qualify for graduation students must complete the Application for Degree **before** the first workday of the month student intends to graduate.. The Application for Degree is available by requesting the graduation packet at website <https://apps.grad.umn.edu/secure/gradpacket/>

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

All PhD Students: *use this form to initiate an annual progress review meeting with your academic advisor.*

Annual Review 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 to DGS Betsy 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: |
| Number of Thesis/Dissertation credits PubH 8888 taken/pending | |
| PhD Timeline and Forms: http://www.grad.umn.edu/students/doctoral/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 PhD Students - Steps to Degree Completion

http://policy.umn.edu/sites/policy.umn.edu/files/appendix/doctoralcompletion_appa.pdf

UNIVERSITY OF MINNESOTA
DEGREE COMPLETION STEPS
Doctor of Philosophy
Doctor of Education

In order to receive your degree, the following procedures must be completed. You must maintain active student status by registering every fall and spring semester until your degree is awarded. All forms must be submitted to the Graduate Student Services and Progress (GSSP) office unless otherwise noted. Contact your graduate program office for program-specific requirements and deadlines.

- 1 Complete Graduate Degree Plan**
Submit at least one semester prior to your preliminary oral exam
- 2 Assign members to preliminary oral exam committee**
Complete at least one month prior to exam via www.grad.umn.edu/students/forms/doctoral/index.html
- 3 Complete Preliminary Written Exam**
Program staff report results to GSSP. Must be on file with GSSP to be authorized to take preliminary oral exam
- 4 Schedule preliminary oral exam**
Notify GSSP of scheduled exam at least one week in advance
- 5 Submit Preliminary Oral Report**
Submit for your record to reflect doctoral candidacy
- 6 Assign members to doctoral final exam committee**
Complete at least one month prior to exam via www.grad.umn.edu/students/forms/doctoral/index.html
- 7 Request Graduation Packet**
Packet will include the Graduate Application for Degree form and Reviewers' Report form. You can request it in person or online up to one semester before your doctoral final exam.
- 8 Schedule doctoral final exam**
Notify GSSP of scheduled exam at least one week in advance
- 9 Submit Graduate Application for Degree**
Submit to One Stop by the first business day of anticipated month of graduation
- 10 Submit Reviewers' Report**
Submit prior to your defense
- 11 Submit Doctoral Final Exam Report**
Submit no later than the last business day of anticipated month of graduation
- 12 Submit dissertation/project**
Submit by the last business day of anticipated month of graduation. Consult Graduation Packet for formatting guidelines.

Questions?
Contact the Graduate Student Services and Progress office
(160 Willamson Hall)
<http://www.grad.umn.edu/students/doctoral/index.html>

Stacia Madson
Degree Progress & Final Exams
prog@umn.edu
Prelim Exams
prog@umn.edu
312.225.5188

OTR204
3/13

Appendix B.1: Environmental Health PhD Competency Statement

The PhD degree focuses on the science of environmental health, and emphasizes training to conduct research in the biological mechanisms, assessment, management, and communication of environmental health hazards with a focus on preventing the occurrence or spread of disease. EnHS students select a focus area based on their academic goals.

EnHS Options for PhD Public Health Requirements

All PhD students must have a broad introduction to public health, which is defined as learning the 12 public health knowledge domains defined by the Council on Education for Public Health (CEPH). Here are three options for MS and PhD students to fulfill this requirement. See rest of Appendix B for list.

1. Complete PubH 6250 Foundations of Public Health
2. Enter the program with an MPH or graduate level minor in Public Health
3. Enter the program with an undergraduate major or minor in Public Health
4. Take the equivalency exam for PubH 6250 Foundations of Public Health

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