UNIVERSITY OF SOUTH CAROLINA

Arnold School of Public Health

Department of Environmental Health Sciences (ENHS)

Handbook

for

Graduate Students

Arnold School of Public Health

University of South Carolina

2025-2026

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Section One: Overview

The environmental health sciences examine the interactions between humans and their environment. Human activities impact on environmental quality and environmental factors, and, in turn, are principal determinants of human health. Exploration of these complex interactions involves numerous elements of pure and applied sciences, e.g., biology, chemistry, engineering, geography, public health, and medicine. Faculty members, staff and students of the Department of Environmental Health Sciences have expertise in a broad range of disciplines necessary to the solution of problems in environmental health sciences. This expertise includes air pollution, environmental and health-related microbiology, nanoscience, mammalian toxicology, aquatic and wetlands ecology, marine ecotoxicology, ecosystem modeling, risk and impact assessment, disaster preparedness, exposure analysis, environmental planning and engineering, environmental physiology, environmental epidemiology, landscape ecology, remote sensing and spatial modeling, and water and wastewater treatment.

The mission of the Department of Environmental Health Sciences (ENHS) is founded on the philosophy that healthy environments enhance the health and well-being of individuals and the communities in which they live. Thus the goals of the department are to:

- develop improved methods for assessing the health and quality of the environment
- promote a clearer understanding of interactions between humans and their natural, home, and work environments
- achieve molecular to landscape levels of resolution for understanding health/environment interactions
- protect the natural resources upon which life depends
- provide scientifically sound information for policymakers to encourage social awareness of and societal actions toward sustaining a healthy relationship with the environment.

The Department of Environmental Health Sciences offers the following degrees: Master of Public Health (MPH), Master of Science (MS), and Doctor of Philosophy (PhD). A common level of core public health training is completed prior to undertaking advanced study and research. The purpose of this booklet is to provide general information as related to the graduate programs and the rights and responsibilities of students enrolled in the Department of Environmental Health Sciences. Expanded and additional information as related to graduate studies in Environmental Health Sciences and at the University of South Carolina is available from the Departmental Director of Graduate Studies, Graduate School and Graduate Studies Bulletin (discussed below). This document does not supersede information and requirements released by the **Graduate School** or printed in the **USC Graduate Bulletin**.

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Section Two: Academic Standards

Academic Standards

1. Graduate Studies Bulletin

It is the right and responsibility of every graduate student in the Department of Environmental Health Sciences to be familiar with a current copy of the USC Graduate Bulletin**.** The first part of this document contains general information concerning The University of South Carolina and The Graduate School. The Graduate Studies Bulletin also includes a complete section of information specific to the Arnold School of Public Health; graduate degrees offered by the Department of Environmental Health Sciences; and a description of graduate courses.

2. Academic Suspension Policy ("3.00 Rule")

Graduate degree-seeking students whose cumulative grade point average drops below 3.00 (**B**) will be placed on academic probation and allowed one calendar year in which to raise the grade point average to at least 3.00. In the case of conversion of grades of incomplete that cause a cumulative GPA to drop below 3.00, a degree-seeking student will be placed on academic probation at the end of the semester in which the grade is posted. Students whose cumulative GPA falls below the required minimum of 3.00 by receiving a grade for a course in which they received an Incomplete will, instead of a one-year probationary period, be granted only one major semester of probation dating from the semester in which the grade is received by the Registrar in which to raise their cumulative GPA to 3.00 or above. Students who do not reach a cumulative 3.00 grade point average during the probationary period will not be permitted to enroll for further graduate course work as a degree or non-degree student.

3. Grade Point Averages

The student must maintain a GPA of at least 3.0 on a 4.0 scale on all courses attempted for graduate credit. The student must also maintain a GPA of at least 3.0 on a 4.0 scale on all courses numbered 700 or above.

4. “I” (Incomplete) to “F”

An “*I*” is a temporary grade that may be assigned at a professor’s discretion to allow an additional specified amount of time to finish course requirements following illness, accident or unusual hardship. In the event of an “Incomplete” grade, the student must make arrangements with the course professor to finalize completion of the course. A grade of “*I*” is automatically converted to a grade of “*F*” after one (1) year.

5. Program of Study

The Program of Study (POS) is a listing of all the courses that a student must complete as a part of the degree to which he/she has been admitted. The POS must be endorsed (i.e. signed) by the student, the student’s advisor and the Director of Graduate Studies in accordance with the graduate curriculum for the Department of Environmental Health Sciences. The approved program of study should be submitted no later than the student’s second semester of study to the Graduate School for review and approval by the Graduate Dean.

All courses in a program of study leading to the MPH and MS degree must be completed within a six (6) year period from the date of admission to graduation. All courses in a program of study leading to the PhD degree must be completed within an eight (8) year period from date of admission to graduation. Courses not completed within the appropriate time period must be retaken or revalidated.

6. Transfer Credits

At the approval of the Graduate School and the Department of Environmental Health Sciences (i.e., by the Director of Graduate Studies) a limited number of earned graduate-level credit hours may be considered for used as Transfer Credits toward earning a graduate degree (**http://gradschool.sc.edu/forms/** see **Request or Transfer of Graduate Credit (G-RTC)** form*)*. The following provisions apply:

- The courses must be documented by an official transcript mailed to the Graduate School by the awarding institution.
- The transcript must clearly indicate that graduate credit was awarded or specifically verified by the institution's Registrar or Graduate Dean.
- The courses must be judged appropriate by the student's academic committee and listed on a program of study approved by the Graduate School.
- Courses with grades lower than "B" are not transferrable.
- There is no revalidation mechanism for courses completed at another institution.

7. Facilities and Resources

Students who are involved in research projects associated with degree programs are required to be formally enrolled during the period that they are actively engaged in the project. Collection of data, laboratory analysis of data, computer analysis of data, manuscript review (with faculty) and revisions are examples of active engagement. The minimal enrollment is 1 credit. The student would normally be enrolled in ENHS 798, ENHS 799, or ENHS 899, but enrollment in any course within the ENHS department or another university department will satisfy the requirement. This requirement is not meant to place undue burden upon students, but simply to reflect the involvement of the University's resources in the process.

8. Application for Graduation

Graduation Applications must be turned into the Student Services Coordinator at the Arnold School of Public Health no later than 15 days after the beginning of the semester in which a student plans to graduate.

9. Student Assistance Program for Behavioral or Academic Problems

Faculty, staff and other students may notice behavior that appears unethical or unprofessional in a student enrolled in the program. In addition, a student may experience academic problems with selected course content. Independent observations of isolated events may not be sufficient to draw attention to a larger potential problem. For this reason, collective observations may assist in the identification of a significant problem and indicate a need for external assistance. Faculty and staff of the department have established policies and procedures for assisting students who are exhibiting behavioral or academic problems. The objectives of this program are:

- The early identification of students exhibiting behavioral and/or academic problems that will be detrimental to their progression in the academic program or outside work experiences.

- The development of a remedial plan of action designed to assist a student in managing and addressing behavioral or academic problems.

The following procedures should be followed by faculty, staff or students who observe behavioral or academic problems on the part of a student enrolled in the Environmental Health Sciences program:

1. An individual who observes unusual behavior or poor academic performance (physical signs, emotional signs, or social interactions) should complete the Behavioral Report or Academic Problems Form. This form can be obtained from the departmental office.
2. The completed form should be returned to the departmental office. The confidentiality of the respondent (i.e. the one who reported the incident) will be assured.
3. Upon receipt of a completed form, the Director of Graduate Studies will schedule an interview with each respondent.
4. The Director of Graduate Studies will maintain a confidential file of all submitted forms. In evaluating the nature of an individual student's issue, the Director of Graduate Studies will evaluate the number of forms submitted for a student, the nature of the issue and any additional information obtained from the respondent interview.
5. The Director of Graduate Studies will inform the student of the reported issue and will meet with the student.
6. The Director of Graduate Studies will synthesize all relevant information and submit a report to the faculty and solicit input regarding the appropriate steps for providing assistance to the involved student.
7. The Director of Graduate Studies (in consultation with the Departmental Chair) will prepare a final report and define the steps to be taken to address the issue. A meeting will be held with the involved student to summarize the report and provide an opportunity for assistance. Both the student and Director of Graduate Studies will sign the report. The report will be placed in the student's file and upon completion of the remedial steps, will remain confidential.
8. Students may also be referred to additional support agencies on campus including the Counseling and Human Development Center (Student Health Services) for professional and personal issues and Educational Support Services (Office of Student Development) for issues related to academic skills.
9. The Director of Graduate Studies will establish regularly scheduled meetings with the student to monitor progress and provide the faculty with relevant information regarding the student's progress.

10. Counseling and Human Development Center

The Counseling and Human Development Center (CHDC) is the primary counseling center on campus. Part of Student Health Services, it is committed to the educational, personal, social and emotional development of every student. The CHDC provides a wide variety of confidential services to students through a staff of counseling psychologists, a psychiatrist, a social worker, counselors and supervised interns.

The major emphases of the CHDC are providing: individual and group counseling, marital and relationship counseling, crisis intervention, psychological assessment, biofeedback training, outreach programming, and consultation. Brief psychiatric intervention is also available when necessary. The CHDC strives to provide services that are oriented toward prevention, remediation and developmental growth. Limited services (up to 12 visits per year) are available at no cost to University students who have paid the University Activity Fee. All visits beyond 12 will be on a fee-for-service basis. Non-fee paying students are eligible to use the Center on a fee-for-service basis. The CHDC can also provide referrals to other professionals and organizations in the Columbia area. The Counseling and Human

Development Center is fully accredited by the International Association of Counseling Services Inc. and adheres to the high standards associated with the profession. All client contacts are treated professionally and confidentially. The internship program is fully approved by the American Psychological Association. The Counseling Center (**http://www.sa.sc.edu/shs/chdc/**) is located on the seventh floor of the Byrnes Building or they can be reached at 803.777.5223.

11. Academic Assistance

The Academic Skills Program offers a wide variety of services designed to help students improve their reading and study skills. Students who are having difficulty with classes as well as students who are more successful may benefit from consultation with or participation in the Academic Skills Program. Services include individual skills counseling; study skills presentations; computer-assisted instruction; programs focusing on time management, speed reading and comprehension, test taking skills and test anxiety reduction, note-taking and listening, vocabulary development, memory improvement, and textbook mastery. Academic assessment, learning-style assessment, and preparation for standardized admissions tests for graduate and professional schools are also available. For more information or to make an appointment, visit: **http://www.sc.edu/bulletin/archives/2001-2002/ugrad/StudeDev.html** or call 803.777.6573.

12. Financial Aid

Information regarding financial aid may be obtained from the Office of Student Financial Aid and Scholarships (**http://www.sc.edu/financialaid/**) at 803.777.8134 or by e-mail (USCFAID@sc.edu).
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Section Three: Health and Safety

1. Policy on Bloodborne Pathogens

Students enrolled in the Department of Environmental Health Sciences should be particularly aware of the potential contamination from infectious agents in the health care environment. "Standard Precautions" was mandated into standards on 6 December 1991 by the Occupational Safety and Health Administration in response to increasing public concern over possible transmission of the Acquired Immune Deficiency Syndrome (AIDS) virus and Hepatitis B virus. The standard states that any person who might potentially come in contact with bodily (human and animal) fluids should be educated in infection control and should treat all bodily fluids as though they were potentially infected. "Standard Precautions" is the international term used by the medical industry to describe the set of measures introduced to allow medical staff to safely handle material that may carry blood or body fluids.

2. Precautions for the Transmission of HIV and HBV

Basic training for students and faculty in the safe handling of bodily fluids and blood in conjunction with the following blood and bodily fluid precautions can prevent the transmission of blood borne agents.

1. All blood and other bodily fluids will be considered to be infectious at all times.

2. Whether or not a patient/participant is known to be infected with HIV, HBV, the student/faculty will:

   a. Wash hands thoroughly with soap and water before and immediately after contact with blood, urine, or other bodily fluid.
   b. Wear gloves when handling blood, bodily fluids, and/or items soiled with these fluids.
   c. Wear gown, mask and eye coverings when performing procedures where aerosolization or splattering is likely to occur.
   d. Consider sharp items (needles, pipette tips, scalpel blades etc.) as being potentially infective and handle with extreme care to prevent accidental injury.
   e. Immediately after use, dispose of sharp items in puncture-resistant packaging.
   f. Do not recap, purposefully bend, or otherwise manipulate by hand needles that are to be disposed.
   g. Minimize the need for emergency mouth to mouth resuscitation by using pocket masks, bag valve masks or other ventilation devices.
   h. Clean up spills of blood or bodily fluids immediately with a disinfectant, and clean work areas with a disinfectant after work is completed.
   i. If a cut or abrasion is present, cover these with a waterproof dressing.

3. If an incident occurs, please follow the following instructions:
   a. Wash the exposed or injured area with soap and warm water for 10-15 minutes.
   b. Inform the lab manager or supervisor, immediately, if present.
   c. Incident occurs during normal hours (8AM to 4PM), report to the Richland Family Practice located on the first floor at 3209 Colonial Drive, Palmetto Health Richland Hospital Campus. Call 434-2479 or 434-6116.
   d. If incident occurs after normal working hours or on weekends and holidays, report to the Emergency Department at Palmetto Health Richland Hospital.

e. A '*USC incident report'* will need to be completed once treatment is initiated.
f. If you need immediate assistance, call Campus Police at 7-9111 (24 hours a day, 7 days per week).

Graduate Student Requirements

1. Hepatitis B Vaccination Series

All students (Graduate Assistant, Graduate Students) are highly recommended to complete the Hepatitis B vaccination series, show medical documentation of immunity or have a physician's letter showing inability to take the vaccination before beginning any lab, clinic, thesis, project, or course work. This is because many of our students are potentially exposed in the course of their research. The vaccination series is available through private physicians, the health department or the Thomson Student Health Center at USC for a fee. No student will be allowed to begin working with biohazardous material until documentation of vaccination is provided to the Department. If a routine booster dose of Hepatitis B vaccine is recommended at a future date, such booster doses shall be required at the student's expense. Those students that choose to decline the Hepatitis B vaccination must sign a waiver form to be kept on file in place of the immunization record. Any student *employed* by the Department of Environmental Health Sciences is eligible to receive the vaccination free of charge and should contact the Department Safety Manager for further information.

2. Laboratory Safety Training

All students working in research laboratories must complete a laboratory safety course, offered by USC ***Environmental Health and Safety Unit*** (EHS) [**http://www.sc.edu/ehs/LabSafety.htm**]. The computer-based course, designed to cover safe practices in a laboratory setting, is offered on the EHS website and is accessible via any computer with Internet access. It is the responsibility of the student to complete this course prior to enrollment and annually thereafter. Student's registration is subject to cancellation until this requirement is completed, since Environmental Health Sciences coursework involves laboratory activities.

Section Four: Graduate Assistants

Required of Graduate Assistants

1. Professionalism/Standards

Graduate Assistants (GA) and Graduate Research Assistants (GRA) are fully admitted graduate students who are paid employees of the University of South Carolina. As such they are expected to perform their assigned duties in a timely, effective, and responsible manner. GAs and GRAs play key roles in the Department of Environmental Health Sciences and the manner in which they perform their duties reflect importantly on the Department's reputation with students, clients, research subjects and other members of the University community.

Graduate assistants are typically appointed to 0.5 full time equivalent (FTE) positions and, accordingly, are assigned to work 20 hours per week throughout the semester. However, in some cases appointments are made at lower fractions of an FTE. Starting and finishing dates for work assignments are designated on a semester-to-semester basis and may vary with the nature of the specific assignment.

2. Lab Safety Training Course

The Department of Environmental Health Sciences requires all graduate students who are teaching or conducting research in the performance or biochemistry labs to attend a laboratory safety training course. An instructor led class provides the safety information and is required by OSHA for all personnel who will work in a laboratory setting. Training of personnel and proper handling of lab hazards can prevent accidents in the lab environment. This one-hour, in-class course is offered at various times throughout the semester. Students should contact the safety manager to schedule the training course.
See course dates on the EHS website (**http://www.sc.edu/ehs/LabSafety.htm**).

3. Placement/Assignment

GA and GRA work assignments, if available, are made on a semester-to-semester basis. These assignments are made by the Department Chair and Director of Graduate Studies with input from the faculty. In making the assignments the following issues are considered:

- the needs of the Department
- interests of the graduate assistant
- competencies and background of the graduate assistant.

While consideration is always given to the graduate assistant's preferences, the needs of the Department must take precedence.

4. University Workshop for Teaching Assistants

GAs who are assigned to serve as instructors of courses or in laboratory sections or other courses are required by the University to complete a training course for teaching assistants. This workshop is typically held prior to the start of the Fall semester. Those graduate assistants who are required to

complete this workshop will be notified by the Director of Graduate Studies. All GA's are now required to take a *formal TA training course* provided through USC Graduate School (**http://gradschool.sc.edu/students/ta.asp?page=ta),** and mentioned previously.

5. Office Hours

It is both a University and Department requirement that GAs with teaching responsibilities post and adhere to regular office hours. This should be a minimum of three hours per week. The purpose is to facilitate communication between students and their teaching assistant. Work assignments and work hours for GRAs are dependent on the nature of the research project and might not adhere to traditional Monday to Friday work hours.

6. Enrollment Requirement

Graduate assistants are required to be registered as full-time students during any semester in which they are appointed to an assistantship. Therefore, the minimum amount of credits a student must take in the Fall and Spring is six credits and the maximum is twelve credits. During summer sessions the minimum registration level is one graduate credit hour. Students who have completed all requirements except research, can potentially sign up for 1 credit of ENHS 799 (for Masters program) or ENHS 899 (for PhD program) during spring or fall semesters through a special 'Z-status' designation, which requires approval by the student's advisor, Director of Graduate Studies, and Graduate School (see **GS-ZS** form under **http://gradschool.sc.edu/forms**/).

7. Appointment Dates; University Holidays vs. Assistantship Responsibilities

In general, graduate assistantship duties start on the date designated by the Department Chair at the beginning of each semester and extend through the end of the final exam period for the semester. Typically graduate assistants are not required to work during University holiday periods. However, in some special cases graduate assistants may be required to work during holiday periods. University Holidays are different from class holidays (i.e., Fall/Spring Break, Election Day). Graduate assistants will be notified of any special requirements at the time of assignment. In some instances, additional compensation will be awarded to graduate assistants for work during holiday periods. Communicate with your faculty supervisor to determine dates you are expected to work in fulfillment of your responsibility as an employee.

8. External Employment

Graduate assistants who are appointed at the 0.5 FTE level (20 hours per week) are expected to not be employed outside of the Department. This guideline applies to any activity that involves a continuing commitment to an outside employer for which compensation is made. This guideline does not apply to occasional, isolated activities (e.g., presentations, consultations, etc.).

9. Seminar Attendance

The Department of Environmental Health Sciences sponsors a seminar series each semester. Speakers are Departmental faculty and students who present current research data, as well as visitors who are nationally and internationally recognized researchers. The date, time, location, speaker, and topic of these seminars will be posted. Graduate students are strongly encouraged to participate in these seminars.

10. Problems

Graduate assistants experiencing difficulties with an assigned work responsibility should bring such difficulties to the attention of the faculty supervisor as soon as possible. If the faculty supervisor is unable to resolve the difficulty, the graduate assistant should bring the problem to the attention of the Director of Graduate Studies or Department Chair. Such difficulties should not be allowed to continue for a prolonged period before bringing them to the attention of the faculty supervisor and/or Department administration.

Section Five: Programs of Study

The Department of Environmental Health Sciences offers the following degrees: *Master of Public Health* (MPH), *Master of Science* (MS), and *Doctor of Philosophy* (PhD).

Master's Degrees

Master of Public Health (MPH)

The MPH degree is oriented toward development of a broad background in public health and preparation for professional practice. The MPH degree requires 43 credit hours of study and is practice-oriented. MPH students complete a supervised public health practice in lieu of a thesis. The MPH degree program emphasizes the scientific basis of public health and problem-solving knowledge. Individuals pursuing the MPH program are encouraged to complete an internship as a cooperative venture with industry and/or government.

In Fall 2019, the Arnold School of Public Health launched our redesigned MPH programs to meet new accreditation criteria from the Council on Education for Public Health (CEPH). Our MPH programs include a new 16-credit hour multidisciplinary, integrated core curriculum based on CEPH's **12 foundational knowledge learning objectives and 22 foundational competencies**. The core curriculum will be comprised of the following courses:

- PUBH 724 *Quantitative Methods for Public Health Practic*e I (Fall year 1; 3 credits)
- PUBH 725 *Quantitative Methods for Public Health Practic*e II (Spring year 1; 3 credits)
- PUBH 726 *Qualitative Methods for Public Health Practice* (Fall year 1; 3 credits)
- PUBH 730 *Public Health Systems, Policy, and Lead*ership (Spring year 1; 3 credits)
- PUBH 735 *Practical Applications of Public Health Planning* (Fall year 2; 4 credits)

In addition to the foundational competencies, each MPH program is built around concentration-specific competencies (listed in the program descriptions below). Toward the end of their programs, students will complete an Applied Practice Experience (i.e., practicum, internship, or residency) to demonstrate competency attainment in a practice setting and an Integrated Learning Experience (ILE) to demonstrate their ability to synthesize foundational and concentration competencies.

In addition to the CEPH competencies, students completing the MPH in Environmental Health Sciences (ENHS) will be able to:

1. Students will define environmental stressors and hazards as they relate to community vulnerabilities.
2. Students will apply principles of toxicology to identify acute and chronic hazards related to human health.
3. Students will discuss the basic principles of the environmental fate of contaminants.
4. Students will apply toxicological hazard and exposure assessment techniques to the risks associated with environmental stressors.

5. Students will explain the significance of local, state and federal laws that regulate environmental quality and public health.
6. Students will identify approaches for preventing, mitigating and remediating environmental hazards and issues.
7. Students will review and critique the scientific merit of environmental health research articles and presentations.

Students in the ENHS MPH program will complete the public health core, described above, and take an additional 27 credit hours as follows (total 43 credit hours):

Environmental Health Sciences Core (13 hours)

- ENHS 660 *Concepts of Environmental Health Science* (3 hours; offered Fall and Spring)
- ENHS 761 *Ecotoxicology of Aquatic Systems* (3 hours; offered Maymester)
- ENHS 675 *Infectious Disease Ecology* (3 hours; offered Fall)
- ENHS 775 *Resource Management and Environmental Impact Assessment* (3 hours; offered Spring)
- ENHS 771 *Seminar in Environmental Health Sciences* (1 hour; offered Fall and Spring)

Departmental Major and Cognate Courses (6 hours)

Courses specific to the student's area/s of interest with approval of the student's academic advisor. Electives may be chosen from ENHS or from courses in the University that support the overall educational goals of the student.

Applied Practice Experience and Capstone Course (8 hours)

- ENHS 750 *MPH Capstone Course* (Spring year 2; 2 hours)
- ENHS 798 *Public Health Practice* (Spring year 2; 6 hours)

Guidelines for Practice Preparation and Defense

Public Health Practice combines the accomplishment of a task with intentional learning on the part of a student. In Public Health Practice, students are responsible for initiating their work and establishing learning objectives. In Public Health Practice, the student's work is for the sponsoring organization's benefit, and must not be used outside its purview without specific permission, usually in writing. The results of this work are "controlled" by the sponsoring organization or its representative.

Professional conditions of confidentiality are to be honored according to prevailing practice of the sponsoring organization. In general, information received from an individual or organization belongs to that individual or organization and recipients (i.e., students) are not free to pass along this information to other parties without the consent of the sponsoring individual or organization.

ENHS Master of Public Health (MPH) students must satisfactorily complete an approved public health practice experience totaling of six (6) course credit hours in Public Health Practice (ENHS 798). The experience can be taken in more than one semester, and credit course assigned are variable depending upon the nature and extent of the work tasks undertaken. Three hours of practice work in a regular semester (Fall or Spring terms) requires an average of 10 hours of actual work each week including writing the final report, or 20 hours per week for six credits. In a Summer term, six hours of credit would require 40 hours per week. The practicum is graded on a pass/fail basis.

Participant roles in ENHS 798

Students are expected to work with their ENHS Faculty Practicum Advisor and Public Health Practice Preceptor in:

- Taking initiative and responsibility in working with their ENHS Faculty Practicum Advisor and Practicum Preceptor in defining competencies to be developed.
- Arranging or selecting and appropriate setting for practice activity, developing clear work and learning objectives and completing work and learning tasks by the dates agreed upon.
- Arranging appropriate meetings with Faculty Advisor and Practicum Preceptor, including the final presentation.

ENHS Faculty Public Health Practice Advisors are expected to:

- Advise students in developing practicum proposals and practicum agreements.
- Advise students regarding ethics review required of the practicum project.
- Participate in meetings with student and Practicum Preceptor at the location of student's practicum.
- Provide ongoing expert advice and guidance as needed or required.
- Assess learning outcomes and assign pass/fail grade at appropriate times.
- Attend practice presentation by student.

Practicum Preceptors are expected to:

- Assist students to define short-term tasks of potential use to sponsoring organization.
- Review student's proposal and practicum agreement for usefulness to organization.
- Determine limits of Practicum Preceptor's role with student and provide on-site direction to the work component of the practicum.
- Provide student logistical support (arranging space, equipment, use of phones, use of computer and/or computer software, secretarial help, making introductions, providing data or helping gain access to it and general advise within the organization).
- Assist with assessment of student's work and growth in competence during the practicum.
- Attend practice presentation by student.

Public Health Practice Checklist

This is a chronological checklist of all the steps to completing your practicum. For questions related to practicum students should contact their ENHS Faculty Practice Advisors and/or ENHS MPH Director. For questions related to MySPH Opportunity, students should submit an email via https://mysph.sc.edu/om/contact.php.

MPH Public Health Practice Prerequisites

- Minimum course prerequisites for the practicum experience: completion of 3 of the 5 core courses. ENHS Faculty Practice Advisor may include additional prerequisites.
- Identify a practicum site and meet with perspective practicum preceptor.
- Schedule a meeting with practicum site and practicum preceptor to discuss scope of work.
- Discuss your projected project with your ENHS Faculty Practice Advisor.
- Submit the Practice Approval Form required by your academic department.

- Once you receive approval, register for practicum hours (ENHS 798).
- If required, complete practicum proposal, request a memorandum of agreement, or any other paperwork required prior to you starting your practicum opportunity.

Practice Opportunity

- Develop practicum agreement online at MySPH Opportunity (MySPH.org).
- Change status of practicum agreement to "pending signatures" to have your practicum agreement reviewed and signed by your ENHS Faculty Practicum Advisor and Practicum Preceptor electronically through MySPH Opportunity Manager.
- Download a signed copy of your practicum agreement for files and submit to your academic department.
- Halfway through practicum, meet with your ENHS Faculty Practicum Advisor and Practicum Preceptor to discuss practicum progress.

Practice Finale

- Develop a practicum poster, presentation and/or practicum binder and submit it to your ENHS Faculty Practice Advisor and Practice Preceptor. Requirements vary by topic and needs / expectations of practice preceptor.
- Schedule a date to present your practice work. Your practice presentation will consist of three components:
    - A presentation open to the general public highlighting your practicum experiences.
    - An open question and answer period, and
    - A comprehensive examination administered by the ENHS Faculty Practice Advisor and Practice Preceptor.
- Publicly advertise your practice presentation topic, date, time, and location.
- Confirm attendance of your ENHS Faculty Practice Advisor and Practice Preceptor to attend your practicum presentation or showcase

Evaluations

- Complete your practice evaluation online.
- Follow-up with your ENHS Faculty Practice Advisor and Practice Preceptor to encourage them to complete their practice evaluation.
- Complete the ASPH exit survey.

Master of Science (MS)

The Master of Science (MS) degree is an academic research degree which may be tailored to individual interests and job market needs. The MS degree requires a minimum of 39 graduate hours and combines real-world problem solving and research skills with other technical, health, and related skills to prepare effective environmental health researchers for the public and private sectors. Students complete a ***research thesis***.

Program Procedures

Assignment of Academic Advisor

Students entering the graduate program in Environmental Health Sciences will be initially advised (first semester) by the Director of Graduate Studies of the Department. During this time the student's interests will be discussed and an academic advisor will be assigned. The student is to meet with their advisor prior to the start of each semester. The academic advisor and student are responsible for completing a program of study by the end of the second semester. The advisor and the student should review the student's academic performance and ensure that appropriate progress is being made to completion of the program of study. If academic problems arise, the advisor will be directly involved in the resolution of the problem. Students should approach the academic advisor (and/or Director of Graduate Studies) to express any concerns over the program or their future.

Program Requirements (39 hours)

- ENHS 660 *Concepts of Environmental Health Science* (3 hours)
- ENHS 675 *Infectious Disease Ecology* (3 hours)
- ENHS 761 *Ecotoxicology of Aquatic Systems* (3 hours)
- ENHS 764 *Principals, Methods and Issues in Air Quality* (3 hours)
- ENHS 794 *Introduction to Environmental Health Research* (3 hours)
- EPID 701 *Introduction to Epidemiology* (3 hours)
- PUBH 700 *Perspectives in Public Health* (3 hours)
- + Departmental elective courses (9 hours)
- + Courses addressing quantitative and/or technical skills (12 hours)
- ENHS 799 *Thesis Preparation* (6 hours)

Guidelines for Thesis Preparation and Defense

Thesis

The Master's thesis must be original research designed to answer specific questions and to synthesize new quantitative information contributing to the understanding and solution of public health problems.

Thesis Proposal

Before initiating major thesis work the student, with the help of their academic advisor, will select a Thesis Chair from the Departmental faculty whose interests and expertise complement the student's research interests. The student and the thesis chair will select two (2) other members to serve on her/ his thesis committee, one of whom must be a member of the Graduate Faculty of the University. The thesis committee, along with the student, will outline a Program of Study (use: **Masters Program of Study** form (M-POS) - **http://gradschool.sc.edu/forms/**), listing the required and elective courses to be taken

by the student during his/her program. The thesis will be carefully defined through consultation with the committee. The student will prepare a written '*thesis proposal*' outlining:

- the general problem to be addressed with adequate literature support
- the specific objectives of the study and how accomplishing these objectives will contribute relevant new knowledge to the field
- the methods for accomplishing the objectives
- the time, equipment, money and other resources required.

The content of the proposal will be reviewed by the committee and at least one meeting of the full committee with the student will take place for proposal acceptance before major thesis work commences. It is the student's responsibility to arrange this meeting. The approved title and proposal will be filed at this time with the Chair of the Department and the Director of Graduate Studies.

Thesis Research

The major portion of the thesis work itself (field, laboratory, literature analysis) will be conducted by the student in close collaboration with the student's thesis committee (especially the thesis chair). Any changes in the former plan, as set forth by the proposal, must be agreed upon by the committee. Except under unusual circumstances, the student will be registered for thesis work at the time of graduation.

Thesis Defense and Comprehensive Examination

At the completion of the thesis work, and prior to the deadline established by the Graduate School, the student will present an informative seminar (i.e., ***Masters Thesis defense***) on the results of his/her thesis research. The student is responsible for arranging and announcing the seminar, which will be open to all interested parties (students, faculty, agencies, etc.). There are two equally important purposes for the seminars:

1. To transmit information, which has culminated from a concentrated body of work on an original research project. Thus, the presentation will be of considerable interest to colleagues and should be concise, well organized, and supported by well-planned visual aids.

2. To serve as an important learning process for the student in the execution of an informative presentation and in responding to the discussion and criticism of faculty and fellow students. The open seminar will be followed by a critical review of the thesis by the student's thesis committee with suggestions for improvement, publication, etc. Then a Comprehensive Examination (i.e. critical review) by the committee will take place (**Master's Comprehensive Exam Verification** *form* - **http://gradschool.sc.edu/forms/**), and will be followed by the formal acceptance or rejection of the student's thesis as partial fulfillment of the Master's degree (**Thesis Signature and Approval** *form* - **http://gradschool.sc.edu/forms/**).

Time Schedule

Thesis title and proposal must be approved by the Departmental Director of Graduate Studies and filed with the Graduate School by the Director of Graduate Studies at least one semester before graduation. A complete first draft of the thesis must be submitted to the thesis chair at least 60 days before the end of the semester of graduation.

Graduate School Guidelines and Deadlines

Guidelines concerning regulations for Master's theses are available from the Graduate School. It is the student's responsibility to obtain current guidelines concerning application for graduation and acceptable Master's thesis format. As with guidelines, deadlines for submitting theses and applications for graduation are subject to change. While these deadlines are posted on the USC Graduate School webpage (**www.gradschool.sc.edu**), it is the student's responsibility to be aware of these deadlines.

Doctor of Philosophy (PhD)

Doctor of Philosophy (PhD) students complete a program of study that emphasizes professional development, scientific competence, and research expertise. The PhD requires a minimum of 60 hours of course work beyond the baccalaureate and includes 12 credit hours of dissertation preparation. Students with an earned master's degree must complete a minimum of 30 hours of course work unique to the University of South Carolina, including 12 hours of dissertation preparation (899). Those students entering without a master's degree are required to take additional foundation course work in environmental health sciences equivalent to the master's degree. Doctoral degree students must complete at least half of the hours on the Doctoral Program of Study (D-POS) in courses numbered 700 or higher. To achieve doctoral candidate status, students must pass a qualifying examination after the first year of study. Upon completion of all course and language requirements, doctoral candidates must pass an oral and/or written comprehensive examination. All doctoral candidates must prepare and defend a dissertation that represents significant research in their area of advanced study. Doctoral students must demonstrate a reading proficiency in a modern foreign language if deemed necessary by the doctoral advisory committee. The *specific curriculum for the doctoral degree varies with the discipline* and some programs require additional credit hours. Students enrolled in a doctoral program have eight years from the first term of enrollment in which to complete the degree. Students must be enrolled for at least one (1) credit during the term of graduation.

Doctor of Philosophy Degree Program

The PhD program in Environmental Health Sciences is designed to prepare students for research careers in the environmental health sciences; graduates are trained for entry into positions in universities, colleges, research institutes and research-oriented settings. Areas of research emphasis correspond to those of the departmental faculty.

Doctoral Program Procedures and Requirements

Five main stages in the completion of the requirements for a doctoral program can be identified and need to be accomplished in the following logical sequence:

Selecting an Academic Advisor and Committee

Students entering the graduate program in Environmental Health Sciences will be initially advised (first semester) by the Director of Graduate Studies of the Department. During this time the student's interests will be discussed and an academic advisor will be assigned. The student is to meet with their advisor prior to the start of each semester. The academic advisor and student are responsible for completing a program of study by the end of the second semester. The advisor and the student should review the student's academic performance and ensure that appropriate progress is being made to completion of the program of study. If academic problems arise the advisor will be directly involved in the resolution of the problem. Students may express concerns over the program or their future to their academic advisor and/or Director of Graduate Studies. Before initiating major dissertation work the student, with the help of the academic advisor, will select a dissertation chair from the major department whose interests and expertise complement the student's research interests. The student and the Dissertation Chair will select (three or more) other members to serve on his/her dissertation committee, one of whom must be a member of the Graduate Faculty of the University (*form* **Doctoral Committee Appointment Request G-DCA**). The dissertation will be carefully defined through consultation with the committee. The student will prepare a written thesis proposal outlining:

- the general problem to be addressed with adequate literature support
- the specific objectives of the study and how accomplishing these objectives will contribute relevant new knowledge to the field
- the methods for accomplishing the objectives
- the time, equipment, money and other resources required.

The appropriations of the proposal will be reviewed by the committee and at least one meeting of the entire committee with the student will take place for proposal acceptance before major dissertation work begins. It is the student's responsibility to arrange this meeting. The approved title and proposal (on "Form for Registering Dissertation Subject") will be filed at this time with the Chair of the Department and the Director of Graduate Studies.

Course Requirements (60 hours)

- ENHS 660 *Concepts of Environmental Health Science* (3 hours)
- ENHS 859 *Advanced Research Approaches and Applications in Env. Hlth. Sciences* (3 hours)
- ENHS 864 *Survey in Multi-disciplinary Research of Env. Hlth. Sciences* (3 hours)
- ENHS 865 *Community-based Environmental Monitoring and Reporting Systems* (3 hours)
- EPID 701 *Concepts and Methods of Epidemiology* (3 hours)
- PUBH 700 *Perspectives in Public Health* (3 hours)
- + Cognate course from table below (3 hours)
- + Departmental elective course (3 hours)
- ENHS 899 *Dissertation Preparation* (12 hours)

Required Cognate and Elective: Select two courses, one from the cognate list below, and one elective of your choosing, one must be 700 level			
ENHS Cognate	ENHS 715	Disasters and Public Health Emergency Management I	3
	ENHS 716	Disasters and Public Health Emergency Management II	
	ENHS 740	Environmental Nanoscience	
	ENHS 761	Ecotoxicology of Aquatic Systems	
	ENHS 764	Principles, Methods, and Issues in Air Quality	
	ENHS 771	Environmental Health Sciences Seminar (1 credit only)	
	ENHS 775	Resource Management and Environmental Impact Assessment	
	ENHS 790	Independent Study	
	ENHS 793	Special Topics in Environmental Health Sciences	
	ENHS 862	Special Research Topics in Environmental Health Sciences	

Program of Study (POS)

The Program Advisory Committee includes three (3) members in the Department of Environmental Health Sciences and one (1) outside member. This committee provides curriculum advisement and designates specific course requirements on the students. This committee should be appointed no later than the date of the student's admission to candidacy. The candidate's set of required courses is not established except by the full approval of the Program of Study Committee. The Qualifying Examination, discussed below, cannot be scheduled until all of the courses listed on the Program of Study are completed or are in progress. The Program of Study (*form* **Doctoral Program of Study - DPOS**) lists *all* courses that must be completed as a part of the degree program. The Program of Study must be endorsed by the student, the major advisor, the Director of Graduate Studies, and the Graduate Dean. Admission to candidacy and approval of the doctoral advisory committee by the Graduate Dean must *precede* the submission of the

Program of Study to the Graduate School. The Program of Study represents a contract between the University, the Department and the student and once approved, it is binding unless all parties agree to its adjustment. Any adjustments to the program of study must be completed in writing and approved by all parties concerned.

Residency Requirement

Doctoral students in the Department of Environmental Health Sciences must enroll in an approved Program of Study for at least three (3) academic years. One academic year must be spent on the Columbia Campus as a full-time student.

Qualifying Examination

The candidate must satisfactorily pass a Qualifying Examination in the fields of study which he/she is pursuing. The Qualifying Examination must include a written component and an oral component. The Qualifying Examination content should reflect the There are two format options for the Qualifying Examination:

- The student is presented a series of questions covering the core principles of public health and environmental health, reflect the student's curriculum as represented by the Program of Study, and explore the student's research interests. The student is given a seven (7)-day period to provide written responses to the questions. An oral follow-up component is administered within fourteen (14) days of the completion of the written component.

- The student drafts a research proposal on a topic determined by the student's primary advisor. The format of the proposal should follow guidelines as put forth by a federal funding agency which supports research of the nature to be undertaken by the student as part of his/her doctoral program (e.g., National Institutes of Health, National Science Foundation). The student is provided a thirty (30)-day period to draft the proposal. An oral defense of the proposal is completed within fourteen (14) days of the completion of the written component.

The degree must be completed within five years of the Qualifying Examination. The Qualifying Examination Committee includes three (3) members with one (1) member outside the Department of Environmental Health Sciences. This committee administers the oral and written part of the Qualifying Examination (*form* **PhD Qualifying Exam Verification**). The membership of the Qualifying Examination Committee (*form* **G-DCA**) must be approved by the Graduate Dean prior to the examination. In general, the Program Advisory Committee will serve as the nucleus of the Qualifying Examination Committee.

Dissertation Defense

Students enrolled in a doctoral degree program in the Department of Environmental Health Sciences are required to submit an approved dissertation to satisfy part of the requirements for the degree. The dissertation is the ultimate requirement of the doctoral program and becomes a permanent record of the student's independent research or creative effort. No later than five years after passing the Qualifying Examination, the student must present a dissertation that has been approved by the student's Program Advisory Committee. (*form* **PhD Comprehensive Exam Verification**)

At the completion of the dissertation work, and prior to the deadline established by the Graduate School, the student will present an informative seminar (i.e., ***Doctoral Dissertation defense***) on the results of

his/her dissertation research. The student is responsible for arranging and announcing the seminar, which will be open to all interested parties (students, faculty, agencies, etc.).

Steps for PhD Program of Study (2021-2022)

Summary of Dept ENHS PhD program STEPS with ***FORMS*** to be signed at each Step:

STEP — *FORMS*

① ***set-up*** **Doctoral Committee** — [**G-DCA**]

Contact four faculty (one from outside Dept), then have meeting- plan research
Usually done at end of *year 1 or early year 2*

First Committee Mtg

② ***set up*** **Program of Study** – by Committee — [**D-POS**]

-any 'transferred of credits use: [**GRTC**]
Note: transferred credits do not show up on student record until graduation

③ **PhD Qualifying Examination** — [**Qualify-Exam Verif.**]

Usually done near/after coursework is complete)
Specific *Format of QE* is up to advisor and committee-

Committee Mtg #2

[e.g. written and oral questions OR write NSF/NIH grant proposal, etc]
When student passes QE- then officially a '***PhD candidate'***,
& can take **Diss Res hours- 'ENHS 899';**

④ ***Conduct dissertation research*** *(typically 3-5 yrs)*

Committee Update Mtg(s)

⑤ **Dissertation Defense** — [**G-DSF**]

⑥ **Comprehensive Exam** — [**Compreh Exam Verif.**]

Final Committee Mtg

Usually conducted on the *same day as Defense*

⑦a **Apply for Graduation** — [**AS-126**]

Apply via Grad School ***early in final semester***

⑦b **Submit Dissertation** *to Grad School*

This must be done ***at least one month before end of final semester***

- ***FORMs*** **→located** on Graduate School website '***Forms Library'*** **http://gradschool.sc.edu/forms/**
- All FORMs need to be ***hand-carried*** **by student to the Graduate School**
- **Make Additional Copies** of ALL FORMs (Paper or Scanned)
  →for Student, Advisor, and give Grad Director copies

Courses in Environmental Health Sciences (ENHS) – *(Updated May 2024)*

UNDERGRADUATE

- **321 Environmental Pollution and Health** (3 *credit hours*)
- **323 Global Environmental Health** (3)
- **324 Environment and Obesity** (3)
- **450 Introduction to Public Health Microbiology** (3)
- **490 Independent Study** (1-3)
- **515 Disasters and Public Health Emergency Management** (3)
- **555 Climate Change Impacts on Human Health** (3)
- **575 Public Health and Community Disaster Resilience** (3)
- **585 Crisis Leadership and the Public Health Professional** (3)
- **592 Oceans and Human Health** (3)

GRADUATE

- **660 Concepts of Environmental Health Science** (3)
- **661 Parasitology** [*=BIOL 531 and EPID 661*] (4)
- **662 Industrial Health Programs** (3)
- **665 Biofilms in Environmental Health and Disease** (3)
- **670 Environmental Pollutants and Human Health** (3)
- **671 Air-Alveoli: Exposure Science** (3)
- **675 Infectious Disease Ecology** (3)
- **715 Disasters and Public Health Emergency Management I**
- **716 Disasters and Public Health Emergency Management II**
- **750 Capstone Course** (2)
- **760 Fundamentals of Air Pollution** (3)
- **761 Ecotoxicology of Aquatic Systems** (3)
- **762 Fundamentals of Industrial Hygiene** (3)
- **763 Medical Aspects of Occupational Health** (3)
- **764 Principles, Methods, and Issues in Air Quality** (3)
- **765 Applied Research in the Environmental Health Sciences** (3)
- **766 Applied Aquatic Sciences** (3)
- **766L Applied Aquatic Sciences Laboratory** (1)
- **767 Ecological Modeling and Environmental Planning** [*=BIOL 768, =MSCI 767*] (4)
- **768 Industrial Ventilation and Hazard Control** (3)
- **769 Exposure and Risk Assessment** (3)
- **770 Microbial Processes and Pollution** (3)
- **771 Seminar Series in Environmental Health Sciences** (1)
- **772 Human and Ecological Risk** (3)
- **773 Radiation Health Physics** (3)
- **774 Risk Assessment and Interactions of Environmental Toxicants** (3)
- **775 Resource Management and Environmental Impact Assessment** (3)
- **776 Environmental Regulation and Planning** (3)
- **778 Air Pollution Monitoring and Modeling** (3)
- **779 Applied Environmental Physiology** (4)
- **780 Advanced Seminar in Environmental Modeling** (1-2)
- **787 Analytical Concepts for Environmental Health Sciences** (3)
- **788 Concepts of Hazardous Materials Management I** (3)
- **789 Concepts of Hazardous Materials Management II** (3)
- **790 Independent Study** (1-6)
- **793 Selected Topics in Environmental Health Sciences** (1-6)
- **794 Introduction to Environmental Health Research** (3)

- **795** **Issues in Coastal Environmental Health** [*=MSCI 795*] (3)
- **798** **Public Health Practice** (1-6)
- **799** **Thesis Preparation** (1-9)
- **859** **Advanced Research Approaches and Applications in Environmental Health Sciences** (3)
- **861** **Aerosol Science** (3)
- **862** **Special Research Topics in Environmental Health Sciences** (3)
- **863** **Advanced Topics in Environmental Planning** (3)
- **864** **Survey in Multi-disciplinary Research of Environmental Health Sciences** (3)
- **865** **Community-based Environmental Monitoring and Reporting Systems** (3)
- **899** **Dissertation Preparation** (1-12)

Final Note:

The Department of Environmental Health Sciences Handbook for Graduate Students is to be used as a guide. Any misstatements are superseded by the USC Graduate Bulletin.