Department of Environmental Health Sciences

MS and PhD Graduate Program
2019-2020
Department of Environmental Health Sciences Directory

**Department Chair**
David A. Lawrence, PhD  
Center for Medical Science  
Room 1155  
150 New Scotland Avenue  
Albany, NY 12208  
518-486-9154  
dalawrence@albany.edu

**Graduate Director**
Shao Lin, MPH, MD  
George Education Center  
Room 189  
1 University Place  
Rensselaer, NY 12144  
518-402-7962  
slin@albany.edu

**Department Manager**
Rebecca McCarthy  
George Education Center  
Room 153  
1 University Place  
Rensselaer, NY 12144  
518-402-0401  
rmccarthy3@albany.edu

**Department Staff**
Jamie Kirchner  
George Education  
Center  
1 University Place  
Rensselaer, NY 12144  
518-402-1294  
jkirchner@albany.edu

**Committees**

**Executive Committee**
David A. Lawrence, Chair  
Shao Lin  
Erin Bell  
Michael S. Bloom  
Haider Khwaja  
Ramune Reliene  
David Spink  
JoEllen Welsh

**Graduate Academic/ Curriculum Committee (GACC)**
Ramune Reliene, Chair  
Ellen Braun-Howland  
Beth Feingold  
Shao Lin  
Xianliang Zhou

**Admissions Committee**
David Spink, Chair  
David Carpenter  
Shao Lin  
Thomas Semkow  
JoEllen Welsh  
Xiaobo Xue
DEPARTMENT OF ENVIRONMENTAL HEALTH SCIENCES
Overview of MS and PhD Programs

The Department of Environmental Health Sciences (EHS) offers programs leading to MS, MPH, DrPH and PhD degrees. Students in the MPH and DrPH programs can choose an area of study in environmental health and the rules for those programs are described separately. Applicants to either the MS or PhD program are expected to hold a baccalaureate degree with a combined total of at least 42 credits in biology, chemistry, and mathematics. On a case-by-case basis, consideration will be given to students with other undergraduate backgrounds. Consultation with the department is recommended prior to applying.

Applicants are required to submit official scores of the Graduate Record Examination aptitude test; the advanced test in chemistry, physics, or biology is recommended. A minimum TOEFL score of 100 is recommended of all international students. Applicants must specify their current interest in a particular area of study. Examples are given below. Students entering the Department of Environmental Health Sciences are provided with an advisor based on the student’s interest in one of the following areas of research:

Environmental Chemistry

Environmental Chemistry emphasizes significant environmental and public health problems. The department's unique position within New York State's Department of Health provides its students and faculty with first-class, modern instrumentation and facilities as well as an abundance of research problems of fundamental and practical interest. Research specializations include analytical chemistry, atmospheric chemistry, environmental chemistry (e.g., transport and transformations of halogenated compounds including PCB's, dioxins, pesticides, perfluorinated chemicals, brominated compounds, and pharmaceuticals), and nuclear chemistry.

Additionally, students may choose to utilize the tools of chemistry and physics in collaborative projects with, for example, scientists in such disciplines as microbiology, toxicology, biochemistry or epidemiology. Research topics include analysis of the exposome, chemicals affecting development and reproductive health, and chemicals associated with climate change and environmental health. The goal of the program is to train students to become competent and
productive researchers in their chosen specialty so that they may assume leadership positions in academia, government or industry.

**Toxicology**

Toxicology emphasizes the application of classical biological, physical and medical sciences to help solve public health problems associated with toxic chemicals, drugs (prescription and recreational), pesticides, and environmental stressors. Research specializations are available in microbiology, neurotoxicology, in vitro toxicology, biochemical toxicology, molecular toxicology, chemical carcinogenesis, immunotoxicology, nanotoxicology, and neuroimmunotoxicology. Research topics include analysis of environmental influences on development of asthma, autoimmune diseases, aging, and endocrine disruption. The program is flexible and will reflect the individual needs of the student. Emphasis will be placed on developing the research tools to enable each student to become a productive researcher in toxicology. The program is designed to prepare students for technical, professional, and supervisory positions and careers in academic institutions, public agencies, and industry.

**Environmental and Occupational Health**

Environmental and Occupational Health offers graduate education, which provides a readily accessible bridge between the disciplines of biology, microbiology, chemistry, physics, and the behavioral sciences to address problems and issues in the prevention and control of environmentally provoked disease. Emphasis is on the development and use of factual bases to define the health effects of exposure of individuals or populations to hazardous materials and situations, environmentally caused diseases, integrating the results of risk assessment with engineering, social, economic and political concerns to reach a decision. Research topics include epidemiological studies of maternal-child health, housing and school exposures, short and long-term effects of exposome, climate and societal disruptions, drinking water quality, and farming and food distribution effects on global environmental health.

**Curriculum**

In the first year, all students take a set of core courses in environmental health, epidemiology, toxicology, environmental chemistry, and biostatistics. During the first semester of the first-year, students also complete two research rotations. These rotations allow the student to become familiar
with the research interests of the faculty and aid in the selection of an advisor for their PhD dissertation or MS thesis work.

The course of study of each student is planned with a faculty advisor who considers the student’s previous academic background, area of specialization, and professional objectives. Students should refer to the Program of Study worksheets included in this booklet to identify curriculum appropriate to their area of concentration.

In addition to courses offered in the Department of Environmental Health Sciences, students may take classes offered in other departments at the University at Albany. Students also have the option of cross registering for classes at Albany Medical College, Rensselaer Polytechnic Institute and other local colleges.

**Academic Standards**

All students are expected to remain in good academic standing throughout their training program, i.e. to maintain at least a B average and obtain a grade of satisfactory (S) in all required courses that are graded on a Satisfactory/Unsatisfactory basis. A student whose record falls below these standards will either be placed on academic probation or recommended for dismissal from the program. A student on probation for more than one semester may have his/her University stipend and/or tuition scholarship withdrawn. A student whose record falls much below these standards at any time or whose performance otherwise indicates a lack of ability or effort needed to succeed in the graduate program will be denied permission for further study. A student in the PhD program who does not have a B average and does not pass the Preliminary Exam will be recommended for dismissal from the PhD program and may consider transferring into the MS program.

**Academic Integrity**

Academic dishonesty (e.g. plagiarism, cheating on examinations, falsification of data, etc.) is unacceptable and will not be tolerated. University policy states that it is up to individual faculty members to decide what the consequence for academic dishonesty is, impose consequences, and submit a Violation of Academic Integrity Report to the student, Department Chair, and Senior Associate Dean for Academic Affairs. Egregious instances may be referred to the Office of Community Standards. The Penalties and Procedures for Violations of Academic Integrity are
described in the Graduate Bulletin.

https://www.albany.edu/graduatebulletin/requirements_degree.htm#examples_dishonesty

**Code of Conduct**

The Department of Environmental Health Sciences expects that all students will understand and adhere to the University at Albany Code of Conduct as detailed in the Community Rights and Responsibilities handbook.

**The Community Rights and Responsibilities handbook states the following:**

“Community Rights and Responsibilities is the official code of conduct outlining behavioral expectations for University at Albany students. The University has developed this code of standards and expectations, consistent with its purpose as an educational institution and requires that each student accept responsibility for his or her own behavior and consequences. These regulations and the procedures for their enforcement apply to all student conduct and behavior. Once a student is accepted as a member of the University community, they are responsible to uphold the standards outlined in this document. As such, students should be familiar with this document. These specific regulations should not be viewed as a comprehensive code of desirable conduct; rather they describe the minimum standards.”

**Advisement**

Each student will be assigned an interim faculty advisor upon entering the program. The interim advisor will be selected by the GACC and EHS Department Chair from the student’s EHS Research area of interest. The interim advisor will meet with the student as necessary to advise on course selection, advanced standing, course waivers, examination waivers, and selection of thesis/dissertation advisors. The student’s permanent advisor should be selected by the end of the student’s first semester. The Graduate Academic Advisement form must be completed and signed by the student and the advisor. Any changes (including courses dropped or added after the start of the semester) can be made ONLY with the written approval of the student’s advisor by completing a new advisement form. This form will become a part of the student’s file.

Requests for advanced standing and course waivers should be submitted by the student to the GACC and EHS Department Chair for approval, prior to submission to the Office of Graduate
Studies at the University.

Students matriculated in the Department of Environmental Health Sciences are not permitted to be concurrently matriculated in any other academic department.

School of Public Health Poster Day Requirement

Participation in the annual School of Public Health Student Poster Day is required of all students in their second year of study and beyond. MS students are required to present posters at a Student Poster Day at least once during their program. PhD students are required to present posters at a Student Poster Day at least three times during their program. Posters presented at professional conferences can be used for the Student Poster Day presentation. A student who fails to meet this requirement without prior permission from the GACC will receive a grade of unsatisfactory on thesis or dissertation research and is not allowed to complete their degree until the requirement is met.
Program Leading to the Master of Science (MS) Degree
The MS program is designed to develop advanced skills, critical thinking, and a sound understanding of the fundamentals in the disciplines of Environmental Chemistry, Toxicology, or Environmental and Occupational Health. The program prepares students for careers in the environmental health sciences working in the public or private sectors. A minimum of 38 graduate credits is required to complete the program.

MS Program of Study and Research (38 credits, minimum)

1. Core courses (21 credits):
   - EHS 520 Principles of Environmental Chemistry (3 credits)
   - EHS 530 Principles of Toxicology (3 credits)
   - EHS 590 Introduction to Environmental Health (3 credits)
   - EHS 675 Responsible Conduct of Scientific Research (1 credit)
   - EHS 690 Research Rotations (3 credits)
   - EHS 780 Current Literature in Environmental Health (1 credit)
   - EHS 790 Seminar (0-1 credit)
   - EPI 503 Principles of Public Health (3 credits)
   - EPI 551 Introductory Applied Statistics (3 credits) or
   - EPI 552 Principles of Statistical Inference I (3 credits)*
   **Students planning to take EPI 553 Principles of Statistical Inference II must first take EPI 552

2. EHS 690 Research Rotations (3 credits**): must be completed in the fall semester. Rotations are not required for MS students who have selected a research mentor prior to entering the graduate program.
3. EHS 790 Seminar - Students will receive 1 credit in their first year and 0 credit for year 2. Additional courses as approved by advisor (6 credits minimum), e.g., EPI 501 Principles and Methods of Epidemiology I (3 credits)
4. EHS 699 Thesis Research (14 credits minimum, a maximum of 9 credits can be exchanged for elective courses with request from the student’s advisor and approval by GACC and the Department Chair)
5. Satisfactory completion of the Major Field Examination
6. Satisfactory public seminar on and defense of master's thesis of laboratory, field, epidemiology, or
systematic review or meta-analysis of the peer-reviewed scientific literature

7. Candidates must maintain a minimum of a B average. ***

* All students are expected to complete the core curriculum in the first year of study. Students may not waive a core course unless they have taken a compatible graduate level course within five years of matriculation into the program. The waiver must be approved by the GACC.

** Counts as an elective.

**** EC/TOX students will take EPI 551; EOH students will take EPI 552 (fall) and EPI 553 (spring)
<table>
<thead>
<tr>
<th>Courses</th>
<th>Grade</th>
<th>Credits</th>
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<tr>
<td>EHS 590: Introduction to Environmental Health</td>
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<td>Fall – Year 1</td>
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<tr>
<td>EHS 520: Principles of Environmental Chemistry</td>
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<td>EHS 690: Research Rotations*</td>
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<td>Fall – Year 1</td>
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<td>EHS 780: Current Literature in Environmental Sciences</td>
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<td>Fall – Year 1</td>
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<td>EHS 530: Principles of Toxicology</td>
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<td>Spring – Year 1</td>
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<td>EPI 551: Basic Principals of Statistical Inference**</td>
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<td>3</td>
<td>Spring – Year 1</td>
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<td>EHS 675: Responsible Conduct of Scientific Research</td>
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<td>EHS 790 (Seminar)</td>
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<td>Spring – Years 1 and 2</td>
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<td>EPI 503: Principles of Public Health</td>
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<td>Fall – Year 2</td>
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<td>Electives (based on concentration)</td>
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<td>Total course credits (24 min)</td>
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<tr>
<td>MS Thesis Research Credits (14 required)****</td>
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* EHS 690 – Rotations are not required for MS students who have selected a research mentor prior to entering the graduate program.

** EC/TOX students will take EPI 551: EOH students will take EPI 552 (fall) and EPI 553 (spring)

*** EHS 790 - Students will receive 1 credit in their first year and 0 credit for year 2.

**** Thesis Research (14 credits minimum, a maximum of 9 credits can be exchanged for elective courses with request from the student’s advisor and approval by GACC and the Department Chair)

Mentor Approval Form: Date: ________________

Thesis Committee Formed: Date: ________________

Major Field Exam : Date: ________________ Passed [ ] Failed [ ]

Expected Date of Graduation Date: ________________
Thesis Committee
The thesis committee will be selected by the student in consultation with the research mentor, and will comprise the mentor and two additional faculty members, who are not collaborators on the research, and will be approved by the GACC. Thesis committee selection should be completed by the end of the second semester of study.

Major Field Examination
MS degree students are required to take the Major Field Examination. This exam will be administered by the thesis committee, and will be in the student’s area of proposed research. The examination consists of an oral defense of a written research proposal prepared by the student. The proposal should outline the background and conduct of proposed thesis research, and include an abstract, specific aims, background and significance, preliminary data (if any), experimental designs and methods, and a bibliography. The research proposal will be judged on standard criteria, including, but not limited to, the student’s grasp of the field, significance of the proposed work, and feasibility of the experimental approach. The exam will be taken no later than the semester prior to the defense of thesis, and may be retaken once within three months after the initial exam.

Seminar and Defense of Thesis
MS degree students are required to present a public seminar based on thesis research and defend their work in a closed meeting of the thesis committee.

Program Leading to the Doctor of Philosophy (PhD) Degree
The doctoral program in Environmental Health Sciences is designed to prepare students for scholarly and professional positions and careers in academia, government, and industry. The program emphasizes the application of biological, physical, and medical sciences to the solution of environmental and public-health problems. The objective of doctoral study is to develop each student's ability to conduct original, advanced research as an independent scientist. In keeping with this goal, each student is expected to guide his or her own research project, under the supervision of a faculty member, with a high level of effort and accomplishment, and thereby gain the capacity to be self-teaching and the ability to design and conduct research on important issues in the student's chosen field.
The program typically entails four or more years of full-time study and research beyond the baccalaureate. There is a maximum of 68 credits of tuition funding from the school for full-time students. Students who are currently enrolled in the MS program and wish to transfer to the PhD program must first complete the MS degree before entering the PhD program.

**PhD Program of Study and Research (68 credits, minimum)**

1. **Core Courses:** 21 Credits *
   
   EHS 520 Principles of Environmental Chemistry (3 credits)
   EHS 530 Principles of Toxicology (3 credits)
   EHS 590 Introduction to Environmental Health (3 credits)
   EHS 675 Responsible Conduct of Scientific Research (1 credit)
   EHS 690 Research Rotations (3 credits)**
   EHS 780 Current Literature in Environmental Health (1 credit)
   EHS 790 Seminar (0-1 credit)
   EPI 503 Principles of Public Health (3 credits)
   EPI 551 Introductory Applied Statistics (3 credits)
   
   or
   
   EPI 552 Principles of Statistical Inference 1 (3 credits)***

* All students are expected to complete the core curriculum in the first year of study. Students may not waive a core course unless they have taken a compatible graduate level course within five years of matriculation into the program and it must be approved by the GACC.

** EHS 690 may be completed either fall or spring semester, dependent upon didactic courses selected.

***Student with emphasis in EC/TOX will take EPI 551; students with emphasis in EOH will take EPI 552 (fall) and EPI 553(spring). Students planning to take EPI 553 must first take EPI 552***

1. **EHS 790 Seminar** (1 credit first time taken and 0 credits thereafter): students must enroll every spring semester during the first four years of their degree program. Waiver requests will be considered by the GACC on a case-by-case basis for the students in their fourth year.

2. **Supporting Courses:** as approved by advisor (12 credits minimum)

3. **Doctoral Research:** (35 credits minimum, a maximum of 13 credits can be exchanged for elective courses with request from the student’s advisor and approval by GACC and the Department Chair). EHS 898 Laboratory Research is taken by students not yet admitted into candidacy for the degree; EHS 899 Dissertation Research is required of all students who have
been admitted into candidacy for the degree.

4. **Residency Requirement:** A minimum of one year in full-time residence study. The residency requirement for all doctoral students will be 7 credits minimum per semester. Per the University at Albany Graduate Bulletin, this requirement is designed to ensure for each doctoral student a sustained period of intensive intellectual growth. For this purpose, a student will enroll for the required number of credits taken in each of two semesters not necessarily consecutive, both of which must be completed satisfactorily.

5. **Admission to Candidacy:** Students are expected to be admitted to candidacy by the end of their third year of study. A student is admitted to candidacy for the degree of Doctor of Philosophy upon meeting the following standards:
   1. A minimum of a B average. *
   2. Completion of course requirements, 33 credits minimum
   3. Satisfactory completion of the Research Tool Requirement (see page 17).
   4. Satisfactory completion of both parts of the Qualifying Exam.
   5. Completion of University Residence Requirement.

*If a student gets a grade of C+ or lower in a required course, he/she must retake the course.

6. **Satisfactory public seminar and defense** of an approved doctoral dissertation based on laboratory or field research.

**Tuition Policy:** Doctoral students are eligible to receive tuition scholarships for a period of four years. Students must be admitted into candidacy by the end of their third year of study, and are expected to complete the 68 credits required for the degree by the end of their fourth year of study. The Department of Environmental Health Sciences will provide tuition scholarships to eligible doctoral students for a **maximum** of 68 credits as often as possible.

**Doctoral students are encouraged to follow this timetable:**

**Beginning of 2nd semester of study:** Dissertation Advisor

**End of 2nd semester of study:** Preliminary Examination

**Beginning of 3rd semester of study:** Dissertation Committee formed

**Beginning of 4th semester of study:** Qualifying Examination Part I

**End of 5th semester of study:** Qualifying Examination Part II

**End of 5th semester of study:** Research Tool Requirement completed
End of 6th semester of study: Admission to Candidacy

**Preliminary Examination:** All PhD students, regardless of previous experience or degrees, are required to take a Preliminary Examination. This exam is administered to first year students at the end of the second semester of study and to students with advanced standing at the end of the first semester of study. The purpose of this exam is to test the student’s ability to critically analyze data and to effectively communicate their ideas. The exam will be oral and based on a paper selected by the examination committee that spans, to the extent possible, the disciplines represented in the core curriculum, which includes environmental health, toxicology, environmental chemistry, epidemiology, and statistics. The paper will be sent to the student at least 2 weeks prior to their presentation. The committee will expect the power point presentation (20 min. maximum), covering a summary of the paper, its strengths and limitations. The committee will have about 40-minute discussion/question and answer time after the 20-min. oral presentation. We will assess student’s knowledge of environmental chemistry, toxicology, epidemiology, and environmental health sciences. The committee members expect the student to be prepared to discuss not just what is covered in the chosen paper, but also broader impacts and connections to the larger field. The student will not be allowed to discuss the preliminary exam paper with other students.

The Preliminary Examination committee will consist of members from the Environmental Chemistry, Toxicology and Environmental and Occupational Health research areas. The committee will provide their recommendation (Pass/Fail) to the GACC after all students have completed the exam. If appropriate, the committee will recommend a retake of the exam, and will provide conditions that must be satisfied to pass the exam.

The GACC will review each student’s overall progress through the first year as well as the Preliminary Exam result, and will make one of the following recommendations to the EHS Department Chair:

1. The student should be permitted to continue in the PhD program;
2. The student should be required to retake the examination. In this case, the student will be informed that there can be only one re-examination, and that this must occur within three months of the initial examination;
3. The student should consider transferring to the M.S. program. A student with a grade point average below B may also be recommended for dismissal from the PhD program. The student can consider transferring into the M.S. program.

A student in the PhD program who does not have a B average and does not pass the Preliminary Exam is automatically dismissed from the PhD program and may apply for a transfer into the MS program. If the student was awarded a departmental stipend and/or tuition, the award is automatically rescinded.

**Dissertation Advisor and Committee:** By the beginning of the second semester of study, the PhD Dissertation Advisor should be selected. The dissertation committee chair must hold an unqualified faculty appointment in the department. In certain circumstances, individuals with qualified faculty appointments in the department may be approved to serve as a dissertation committee chair, but the Dean of Graduate Education must approve this appointment. After selecting a dissertation advisor, the student together with the advisor will submit the suggested dissertation committee membership to GACC and the EHS Department Chair for their approval. The committee should be formed no later than the beginning of the third semester of study and must be approved prior to Qualifying Examination Part I. The Dissertation Committee is usually chaired by the research advisor (a non-voting member except in the event of a tie) and is comprised of at least four other members - two faculty members from the student's area of research, one faculty member outside the area of research and one member whose primary academic appointment is outside the EHS Department, and who may be from another institution. Other than the research advisor no other committee members should be directly associated with the student’s purposed dissertation research.

**Qualifying Examination, Part 1:** Each student who has passed the preliminary examination will be examined by the student's Dissertation Committee by the beginning of the fourth semester of study. This examination will be in the major area of the anticipated research specialization. Each committee member will provide one written question to the student, with all questions being provided at the same time. The student will have one week to write a response to all questions. Each written response should be double-spaced typed pages. The student may use all of the resources of the library in formulating responses to the questions, but should not obtain help from
other faculty members or students. The student will, shortly after submission of the answers, complete an oral examination, administered by the Dissertation Committee. The committee will assign a Pass/Fail grade to the student. A student who fails may be reexamined within one semester with the scope of the examination being determined by the committee. A student who fails to pass on the second try will be allowed to pursue an MS degree or will be required to leave the department. Part 1 of the Qualifying Examination must be passed before proceeding to Part 2.

**Qualifying Examination, Part 2:** This examination is expected to be completed by the end of the fifth semester of study. The examination consists of an oral defense of a written research proposal prepared by the student. The proposal and the oral defense will be evaluated by the Dissertation Committee (Pass/Fail). The exam will test the student's depth of knowledge in his/her chosen area of specialization as well as his/her ability to write and defend a research proposal. This examination is to be on a topic intended to serve as the basis for the student's PhD dissertation research.

The research proposal should be a detailed document outlining the background and conduct of the proposed dissertation research, which should be designed to answer a significant question in environmental health sciences. The student will write the proposal in the format of a NIH research grant application*, following the page limitations currently in effect (and excluding budgetary sections). The proposal should include an abstract, specific aims, background and significance, preliminary data if any have been obtained (preliminary data are not required), experimental designs and methods, and a bibliography. The student may consult with anyone in the course of preparing the proposal, but the written document must represent the student's own work.

The mentor may aid in the development of specific aims and construction of a topical outline for the dissertation proposal. The mentor also may direct the student to relevant literature and may edit an initial draft. However, the mentor should not act as co-author. The research proposal will be judged on standard criteria including, but not limited to, the student's grasp of the field, significance of the proposed work, originality and depth of thoughts and the feasibility of the experimental approach. The proposal must be submitted to the committee at least one month prior to an oral presentation of the proposal to the Dissertation Committee.
*Additional information on the NRSA/F31 application can be found at:

At the oral defense, the student will answer questions on the proposal and on related topics; the questions will focus on (but are not restricted to) the student's program area. The exam will be administered by the student's PhD Dissertation Committee, chaired by the Dissertation Advisor. The student must pass the exam by a majority vote of the Committee. The data and results of the exam will be communicated by the Dissertation Committee Chair to the EHS Department Chair.

If the student does not satisfactorily complete Qualifying Exam part 2, the Dissertation Committee will make appropriate recommendations, which may include modifying the proposal, re-taking the exam, completing remedial course work, or dismissal from the program. If the recommendation is to modify the written proposal, it must be completed and submitted to the Dissertation Committee within one month. If the recommendation is to retake the oral exam, it must be completed within three months.

Research Tool Requirement: The research tool requirement must be completed, at the latest, by the end of the third year of study. The student must demonstrate proficiency in the use of computer and biostatistical programs by completing an approved computer course with a grade of B or better. One example of an approved computer course is EPI 514, which can be taken as an elective.

Dissertation research and the PhD Dissertation Committee: The student's Dissertation Committee will meet once yearly, at a minimum, with the student throughout the course of his/her dissertation research to evaluate progress and advice. It is the responsibility of the Dissertation Committee Chair to ensure that the student schedule these periodic reviews. The student must prepare a short-written progress report summarizing her/his research achievements made since the last review and complete the Progress Report for PhD Research form (the form can be found at:
https://www.albany.edu/sph/images/EHS_PhD_Student_Annual_Progress_Review_Form.pdf) and provide both documents to the Dissertation Committee two (2) weeks prior to the meeting. A
Doctoral Student Annual Review form, including a brief progress report summarizing each periodic review, must be submitted by the Dissertation Committee Chair to the EHS Department Chair shortly after the meeting. These reports will become part of the student's academic file.

**Dissertation submission and defense:** The Dissertation Committee also is responsible for evaluating and accepting the final written dissertation and conducting the student's oral dissertation defense. The completed thesis must be submitted to the Dissertation Committee at least one month before the oral defense. A shorter interval is permissible only if all committee members agree.

It is the student’s responsibility to arrange a date for the defense that is acceptable to the committee members, and to adhere to the one-month interval. If revisions to the dissertation are required, the committee will have two weeks in which to review the revisions. Acceptance of the dissertation will be by majority vote of the Dissertation Committee and is subject to the approval of the University.

It is the student's responsibility to ensure that the final document submitted to the University is prepared according to department and University guidelines. Students should note the following deadlines for submission of the final dissertation document to the Office of Graduate Studies:

- December 1 – Fall Graduation
- May 1 – Spring Graduation
- August 1 – Summer Graduation

To meet these deadlines, the dissertation defense and oral presentation should be scheduled at least two (2) weeks prior to the submission date specified above. The student must notify the EHS Department Office at least three (3) weeks before the scheduled oral defense by submitting the Thesis/Dissertation Seminar and Defense Scheduling Form and providing the date, time, location, and title of the presentation.

Following successful completion of the defense, the Dissertation Transmittal form must be signed by the dissertation committee and submitted to the EHS Department Office. The
Department will then complete the Recommendation for Conferral of Degree and submit both forms directly to the Office of Graduate Studies, verifying that all requirements for successful completion of the doctoral degree have been fulfilled.

**EHS 690: Research Rotations**

The aims of the research rotations are:

1. To allow the student to interact with scientists of varied disciplines.

2. To introduce the student to analytical, field, laboratory, and epidemiological/modeling/research techniques and principles.

3. To give both the students and the faculty an opportunity to interact intellectually.

4. To aid the student in selecting a mentor for graduate research.

All students must participate in the rotations. Students may not repeat a rotation with the same mentor. Exceptions to this plan are subject to approval of the EHS Department Chair. The student is expected to dedicate at least 12 hours per week to each rotation.

**Rotation Schedule**: PhD and MS students will complete two rotations for a total of three credits. Each rotation in the semester will last 7 weeks. The grading system is S/U. An unsatisfactory grade in any rotation will result in a U for that semester. Please note that a satisfactory grade in the two rotations must be attained to fulfill the rotation requirement. The GACC coordinates the rotations in consultation with the student and her/his advisor.

The rotation schedule is designed to obtain the maximum analytical, field, and/or laboratory experience within the framework of courses and additional graduate responsibilities.

**Student Obligations**: A student may choose to complete their research rotations with any faculty member within the Department of Environmental Health Sciences.
Laboratory, field, and non-laboratory rotations, or some combination thereof, are acceptable. Some examples of acceptable non-laboratory based rotation activities are: statistical analysis of databases, systematic literature review, computer modeling of data, and mapping using a geographic information system (GIS). Special permission may be given by the GACC to a student who wishes to do a rotation with a faculty member in one of the school's other departments.

At the end of each rotation, students are required to write a formal report describing their project. This report should be given to the Rotations Coordinator for review. The Coordinator will work with the Mentor to establish and submit a grade. Note that the final version of the report should be submitted to the Department Office no more than one week after the end of each rotation. The student is responsible for submitting this report, and failure to do so will result in an “Incomplete” grade.
### Doctoral Program of Study – Environmental Health Sciences

<table>
<thead>
<tr>
<th>Courses</th>
<th>Grade</th>
<th>Credits</th>
<th>Semester offered/ Complete</th>
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<tbody>
<tr>
<td>EHS 520: Principles of Environmental Chemistry</td>
<td>3</td>
<td>Fall – Year 1</td>
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<tr>
<td>EHS 590: Introduction to Environmental Health</td>
<td>3</td>
<td>Fall – Year 1</td>
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<tr>
<td>EHS 690: Research Rotations</td>
<td>3</td>
<td>Fall or Spring – Year 1</td>
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<td>EHS 780: Current Literature in Environmental Sciences</td>
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<td>Fall – Year 1</td>
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<tr>
<td>EHS 530: Principles of Toxicology</td>
<td>3</td>
<td>Spring – Year 1</td>
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<tr>
<td>EPI 551: Basic Principals of Statistical Inference</td>
<td>3</td>
<td>Spring – Year 1</td>
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<tr>
<td>EHS 790 (Seminar)*</td>
<td>0-1</td>
<td>Spring – Years 1-4 – with option to request a waiver in the 4th</td>
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<tr>
<td>EHS 675: Responsible Conduct of Scientific Research</td>
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<td>Fall or Spring</td>
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<tr>
<td>EPI 503: Principles of Public Health</td>
<td>3</td>
<td>Fall – Year 2</td>
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**Electives (based on concentration)**

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Transfer credits

Total course credits (33 min)

PhD Research Credits (35 required)**

Research Tool – EPI 551

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*EHS 790 – Students will receive 1 credit in their first year only and 0 credits thereafter.*

**Doctoral Research (35 credits minimum, a maximum of 13 credits can be exchanged for elective courses with request from the student’s advisor and approval by GACC and the Department Chair)**

**Mentor Approval Form:**

Date: ________________

**Preliminary Exam:**

Date: ________________ Passed [ ] Failed [ ]

**QE I (end of 3rd semester):**

Date: ________________ Passed [ ] Failed [ ]

**Dissertation Committee formed:**

Date: ________________

**QE II (end of 5th semester):**

Date: ________________ Passed [ ] Failed [ ]

**Research Tool:**

Date: ________________ Passed [ ] Failed [ ]
Students MUST be admitted into candidacy by the end of the 3rd year of study. Admission to candidacy requires completion of 31 credits of course requirements, all exams, and the research tool requirement.