

**ENVIRONMENTAL TOXICOLOGY
GRADUATE STUDENT GUIDELINES
2024-2025**



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1. INTRODUCTION

Research in Environmental Toxicology at the University of California, Riverside began in the mid 1940's with the initiation of a pesticide toxicology research program in the Department of Entomology. In the 1950's interest developed in the effects of atmospheric pollution on field crops and culminated in 1961 with the establishment of the Statewide Air Pollution Research Center (now the Air Pollution Research Center) at UC Riverside. Since 1970, research centered in the Department of Soils and Environmental Sciences (now the Department of Environmental Sciences) has investigated the transformation, transport and degradation of pollutants in the environment. These and other toxicological research interests at UCR were united in 1987 with the formation of the Environmental Toxicology Graduate Program. The Program accepted its first students in 1989 and has since experienced rapid growth. UC Riverside has for many years trained toxicologists who have gone on to successful careers in academia, industry and government service. The Environmental Toxicology Graduate Program now provides a more focused and interactive atmosphere for graduate instruction in Toxicology at UCR.

Participating faculty in the Environmental Toxicology Graduate Program are drawn from the Departments of Biochemistry, Botany and Plant Sciences, Chemical & Environmental Engineering, Chemistry, Computer Engineering, Entomology, Environmental Sciences, Microbiology & Plant Pathology, Molecular, Cell & Systems Biology, Nematology, Philosophy, and the Division of Biomedical Sciences. Students receive instruction in environmental, organismal and sub-organismal aspects of toxicology before choosing a research specialty. The program features a flexible curriculum and individualized training. The program emphasizes the importance of original research as the major component of the student's education. The current research strength of the faculty in the program encompasses the chemical, biochemical, cellular and molecular mechanisms of toxicity of agricultural chemicals and other environmental toxicants, and on the fate and transformation of these toxicants in the environment.

2. GENERAL ADMISSION REQUIREMENTS

Students admitted to the Environmental Toxicology Graduate Program must have a Bachelor of Arts or Science degree from an accredited institution and an academic record which satisfies the minimum admission standards established by the Graduate Division, University of California, Riverside. The Graduate Record Examination is optional and can be submitted if the records are available. Although no specific undergraduate degree specialization is required, students enrolled in the program should have adequate backgrounds in the basic physical sciences such as chemistry, physics and mathematics, as well as in the biological sciences. Normally, students admitted to regular standing will have satisfied all prerequisite course work. Under special circumstances, students who have not completed all undergraduate requirements may be admitted provided that these deficiencies are corrected early within their graduate studies. Deficiencies must be corrected by taking the appropriate course work if undergraduate or other previous training has not included the following:

<u>Subject</u>	<u>Equivalent Courses at U.C. Riverside¹</u>
General Biology (1 year)	Biology 5A-5C
General Biochemistry (1 upper division course)	Biochemistry 110A, B or Biochemistry 100 ¹
Molecular Biology (1 upper division course)	Biology 107A or Biochemistry 110C
General Chemistry (1 year)	Chemistry 1A-1B-1C
Organic Chemistry (1 year)	Chemistry 12A-B-C
General Physics (1 year)	Physics 2A-2B-2C
Calculus (1 year)	Mathematics 9A-B
Statistics (1 upper division course)	Statistics 100A-B (Introduction to Statistics) <i>or</i> 231A-B (Statistics for Biological Sciences)

¹Biochemistry 100 can substitute for Biochemistry 110A and 110B for those students with primarily a chemical emphasis unless otherwise stipulated by the student's guidance committee.

3. PROGRAM PERSONNEL

Dr. Linlin Zhao (Chemistry), Program Chair

Responsible for administering the Environmental Toxicology Graduate Program funding, teaching, and recruitment.

E-mail: linlin.zhao@ucr.edu, Office 4125 MRB, Ext. 29081

Dr. Joseph Genereux (Chemistry), Graduate Advisor for Current Enrolled Students

Responsible for establishing the curriculum of the first-year students, supervising continuing students about their coursework and progress in graduate study, accepting and reviewing DYP/GRMP applications, as well as handling other academic affairs, such as working with the CSAC to approve or disapprove nomination for guidance and oral committee members.

E-mail: josephg@ucr.edu, Office 320 Chemical Sciences, Ext. 23759

Dr. Linlin Zhao, Chair of the Graduate Advisor for Admission Committee; members: Dr. Wei-Chun Chou (Environmental Sciences), Dr. Yujie Men (Chemical and Environmental Engineering), Dr. Jernej Murn (Biochemistry), Dr. Changcheng Zhou (Biomedical Sciences)

The committee is responsible for recruiting graduate students and leading the recruiting efforts.

E-mail: linlin.zhao@ucr.edu, Office 4125 MRB, Ext. 29081

Dr. Ying-Hsuan Lin (Environmental Sciences), Representative of the TA Assignment Committee

Responsible for approving TA applications and attending the TAAC meetings for TA assignment.

E-mail: ying-hsuan.lin@ucr.edu, Office 318 Science Lab, Ext. 23785

Dr. Ying-Hsuan Lin, Chair of the Annual Symposium Organization Committee

Responsible for leading the organization of the program's annual symposium.

E-mail: ying-hsuan.lin@ucr.edu, Office 318 Science Lab, Ext. 23785

Dr. Jason Cheng (Chemistry), Chair of the Curriculum and Student Affairs Committee; members: Dr. Joseph Genereux, Dr. Yinsheng Wang (Chemistry), Dr. Linlin Zhao

Responsible for approving student affairs issues, such as committee nominations, course waivers, and curriculum changes.

E-mail: quan.cheng@ucr.edu, Office 320 Chemical Sciences, Ext. 22702

Dr. David Volz (Environmental Sciences), Chair of the Preliminary Exam Committee; members: Dr. Ying-Hsuan Lin, Dr. Linlin Zhao

Responsible for the implementation of the preliminary exam.

E-mail: david.volz@ucr.edu, Office 314 Science Lab, Ext. 24450

The Committee for Diversity and Inclusion: Dr. Chia-En Chang (Chair), Dr. Margarita Curras-Collazo (Faculty Member), Ms. Aleksandra Karapetrova (Student Member)

Responsible for promoting diversity and inclusion within the program.

Dustin Domingo, Student Services Advisor

Responsible for student recruitment, admissions, and advising on student affairs issues for enrolled students.

E-mail: dustin.domingo@ucr.edu, Office 1140 Bachelor Hall, Ext. 25688

4. ADMINISTRATIVE INFORMATION

a. CNAS Graduate Student Affairs Center (CNAS GSAC): The CNAS GSAC (1140 Batchelor Hall) handles all aspects of student affairs. This office maintains all recordkeeping associated with a student's career in the Environmental Toxicology Graduate Program. While Dustin Domingo is the Student Services Advisor responsible for our program, anyone in the office may assist you in his absence. Dustin will guide you in registering for classes, dropping and adding courses, establishing guidance and thesis or dissertation committees, as well as other important information that you will need during your studies. He will also assist in facilitating and disseminating policies established by the Graduate Division.

b. Employment: If you are to be employed as a Graduate Student Researcher you will need to see the payroll specialist in the NAPSU unit. When meeting with the payroll specialist remember to take your Driver's License and Social Security Card. International Students should also bring their passport and visa papers.

c. UCR Card: Upon your arrival you should obtain a UCR Card (photo identification card). All UCR students are required to have a card, which allows them to check books out of the library and conduct other official transactions on campus. Cards can be obtained at the Card Office in Bannockburn Village. You can obtain more information at ucrcard.ucr.edu. The cost of a photo identification card is \$36.00, which will be billed to your GROWL account.

d. UCR E-Mail Account: All students receive a UCR NetID and an email account upon completion of their Statement of Intent to Register (SIR). This account can be accessed through <http://rmail.ucr.edu>

e. Keys: Your major professor's home department will issue keys to the building, to your office, and to your laboratory. Please check with your Major Professor to find out who to contact.

f. Mailboxes: You will be assigned a mailbox in major professor's department or building. Be sure to check your mailbox on a regular basis. Students who are rotating will be assigned a mailbox in the Life Sciences Building mailroom until a home lab has been chosen.

Outgoing letters concerning "Official University Business" may be placed in the mailbag that hangs in the mailroom. Please note that personal mail, even if stamped, may not be placed into this bag by anyone. The university personnel will return such items to the department; they will not place them into the US mail. There is a US Post Office Location in the Highlander Service Station near the HUB.

g. Xeroxing and Faxing: You may obtain codes for Xeroxing from the staff member in 2103 Biological Sciences Building.

h. Housing: If you are still in need of housing when you get to Riverside, there are a number of possibilities. The university has several dormitories (which house mostly undergraduates), married student housing, and on-campus apartments. Go to <http://housing.ucr.edu/> for more information. The off-campus housing office (3637 Canyon Crest Drive, K101, ext. 85725) has listings of private homes and apartments for rent.

i. Residency: It is imperative that you establish California residency if you are a U.S. citizen or permanent resident whose residency is established in another state. For details on the required documents for establishing

residency go to the Registrar's website at <http://registrar.ucr.edu/QuickLinks/Residency.htm>. **California residency for registration purposes is NOT automatic**. You should begin establishing residency immediately upon your arrival in California.

j. Useful Websites:

CNAS Graduate Student Affairs Center

<http://cnasgrad.ucr.edu/>

Environmental Toxicology

<http://etox.ucr.edu/>

College of Natural and Agricultural Sciences Department and Program Seminars

<http://cnas.ucr.edu/>

General Catalog On-Line

<http://www.catalog.ucr.edu/>

Graduate Division Student Handbook and Forms

http://graduate.ucr.edu/pub_forms.html

UCR Graduate Student Association

<http://www.gsa.ucr.edu/>

Schedule of Classes

<http://classes.ucr.edu/>

GROWL On-Line Registration

<https://ucribm.ucr.edu/Paws/PAWS.html>

UCR Libraries

<http://library.ucr.edu>

UCR Highlander Union Building

<http://www.highlanderunionbuilding.ucr.edu/pages/default.aspx>

UCR Housing Office

<http://www.housing.ucr.edu/Pages/default.aspx>

City of Riverside (lots of information about the city and the area)

<http://www.riversideca.gov/residents.asp>

5. ENVIRONMENTAL TOXICOLOGY CURRICULUM

The Etox Program has two Graduate Advisors, one for Current Enrolled Students (Dr. Joseph Genereux) and the other for Admission (Dr. Linlin Zhao). While you will interact most directly with your faculty contact and later with your major professor, you will want to become acquainted with your graduate advisors. You will consult with Dr. Zhao and Dustin Domingo, the Student Service Advisor, if you have questions about your first-year course work and lab rotation; and consult with Dr. Genereux and Dustin, if you have questions regarding your graduate study or other issues that occur beyond Year 1.

a. Core Curriculum

Students enrolled in the graduate program are expected to complete a core set of courses in toxicology. The objectives of the core curriculum are to provide specific education in the environmental, organismal and sub-organismal aspects of toxicology, and to develop research skills and critical faculties in the area of environmental toxicology. The following courses constitute the core curriculum in toxicology and are required of all enrolled M.S. and Ph.D. students:

ENTX 200	Fate and Transport of Chemicals in the Environment	(4)
ENTX 201	Principles of Toxicology	(4)
ENTX 201L	Laboratory Rotation	(2)
ENTX 202	Mechanisms of Toxicity	(4)
ENTX 270	Seminar in Environmental Toxicology	(1-1-1)
ENTX 271	Seminar in Environmental Toxicology	(2)

b. Elective Courses in Toxicology and Depth Requirement

Each student enrolled in the program will be expected to attain advanced knowledge in an area of specialization related to his/her research problem. The specific training of each student is determined largely by his/her choice of courses, which will be selected in consultation with the major professor and/or the Guidance Committee, and with the approval of the graduate advisor. A number of courses specifically developed for the toxicology program will provide advanced training in selected topics in toxicology. These include:

ENTX 101	Fundamental Toxicology	(4)
ENTX 135	Chemistry of the Clean and Polluted Atmosphere	(4)
ENTX 136	Chemistry of Natural Waters	(4)
ENTX 150	Cancer Biology	(4)
ENTX 154	Risk Assessment	(4)
ENTX 203	Toxicology Laboratory	(3)
ENTX 204	Genome Maintenance and Stability	(4)
ENTX 205	Biotransformation of Organic Chemicals	(4)
ENTX 208	Ecotoxicology	(4)
ENTX 209	Artificial Intelligence in Toxicology and Environmental Health	(4)
ENTX 211	Environmental and Molecular Carcinogenesis	(3)
ENTX 215	Toxicants in Aqueous Media	(3)
ENTX 216L	Laboratory in Biodegradation of Xenobiotic Chemicals	(2)

ENTX 220	Toxicological Risk Assessment	(4)
ENTX 245	Chemistry and Physics of Aerosols	(3)
ENTX 252	Special Topics in Environmental Toxicology	(1-3)
ENTX 290	Directed Studies	(1-6)
ENTX 297	Directed Research	(1-6)
ENTX 298I	Individual Internship in Environmental Toxicology	(1-12)
ENTX 299	Research for Thesis/Dissertation	(1-12)

A number of additional courses offered at UCR would further aid the student in meeting his/her advanced knowledge requirement, and provide needed background information for a particular area of specialization.

c. Teaching Opportunities

There are no formal teaching requirements for the Environmental Toxicology M.S. degree.

Ph.D. students in our program are required to fulfill a two-quarter teaching requirement, which is an important training to prepare our students for teaching and research professions. Under special circumstances, and with the approval of the major professor and program advisor, the student can apply to have this requirement waived.

In order to be selected as Teaching Assistants, Graduate Students are required to fill out a "Graduate Student Application for Life Science Teaching Assistantships". for each academic quarter that they need to teach. This application is available on the web through TA Online <http://taonline.ucr.edu/taship/startpage> and students will be notified by e-mail of open application periods. TA appointments are also available through the Chemistry Department, Environmental Sciences Department, and other departments on campus. Please check directly with these departments for application procedures.

d. Laboratory Rotations

All Environmental Toxicology students are required to enroll in ENTX 201L (Laboratory Rotation) at least once during their first year in the program. Students spend time in one laboratory per quarter familiarizing themselves with research techniques utilized in the laboratory of an Environmental Toxicology faculty member. Rotation laboratories are chosen in consultation with the Graduate Advisor and individual faculty members. Students may enroll in up to 3 quarters of Laboratory Rotation before declaring a major professor. However, each Laboratory Rotation must be in a different faculty member's laboratory. Students who wish to declare a major professor after one quarter are not required to enroll for additional Laboratory Rotation, and the faculty member must submit the "Agreement to Serve as Major Professor" form (See Forms Section).

e. Student Petitions

Students with adequate justification may petition to have departmental requirements waived or modified. *General Petition* forms are available from the Graduate Student Services Advisor and the Forms section of this Handbook. The forms must be signed by the Major Professor and the Graduate Advisor.

6. SELECTION OF MAJOR PROFESSOR AND GUIDANCE COMMITTEE

a. Major Professor

Students select a Major Professor by the end of the third quarter of enrollment. Normally, the major professor will be chosen from faculty members who have signed an “*Agreement to Serve as Major Professor*” form (<https://powerforms.docusign.net/c9fe1484-3784-403c-8762-4d073d8dad0c?env=na3&acct=662bc3a1-ffe6-496e-b95c-f9ce7808bd42&accountId=662bc3a1-ffe6-496e-b95c-f9ce7808bd42>). This form can also be found on <https://etox.ucr.edu/students/current-students>. Other faculty members may also be considered.

The Major Professor serves as Chair of the Guidance and Dissertation Committees and has the critical role of mentor in the student's scientific development. The Major Professor provides the research facilities and the intellectual guidance required to complete the thesis or dissertation.

b. Guidance Committee

Each Environmental Toxicology graduate student must establish a Guidance Committee, which will participate in the annual student progress evaluation procedure (See Forms Section).

The Committee will consist of the major professor plus at least two other faculty members, one of whom must be a member of the Environmental Toxicology Program. Each student, in consultation with the major professor, will choose the members of the Guidance Committee and determine their willingness to serve. The Guidance Committee must be named by the end of the quarter in which the student selects a major professor. The composition of the Guidance Committee must be reported to and approved by the Graduate Advisor (via the Student Services Advisor using the WuFoo form at <https://ucrbgsac.wufoo.com/forms/entx-guidance-committee-nomination-form/>). The form can also be found on the current student resources website. <https://etox.ucr.edu/students/current-students>.

7. ANNUAL EVALUATION

The Environmental Toxicology Graduate Program conducts an annual evaluation of graduate student progress as required by the Graduate Division. Progress Evaluation consists of the following components:

- a) The student prepares the Annual Progress Report Form (see Forms Section). This includes a cover page that details grades, coursework, advancement to candidacy dates, etc. and approximately 1-2 pages of text, primarily describing laboratory progress but also listing other major achievements such as meeting presentations, publications or fellowship awards. A short description of plans for the coming year with regards to research, coursework, qualifying examinations, dissertation preparation, etc. is also included. Attached to this text are tables and figures of data representing progress towards the dissertation. This report is distributed to the Guidance or Dissertation Committee for review at least one week prior to the date of the progress report meeting.
- b) The Annual Progress Report Form is used to provide a written progress evaluation to the student,

representing the consensus of the guidance committee. The major professor will prepare the written comments for the Guidance Committee, and all committee members and the student electronically sign the report (the link can be found on the ETOX website under the Current Student Resources). The electronically signed report is submitted to the Graduate Advisor and Graduate Division for review, via the Student Services Advisor.

- c) Written feedback from the Research Symposium talk will be attached to the progress report form and discussed at the progress report meeting.
- d) The progress report is due to the Graduate Advisor by September 1 of each year.

Following advancement to candidacy, each student should meet and report to his/her Dissertation Committee at regular intervals. As a minimum, the Dissertation Committee should meet once each quarter. To remain in good standing, students must demonstrate satisfactory progress in the annual evaluation procedure, and maintain an overall GPA of at least 3.0.

8. ANNUAL STUDENT RESEARCH SYMPOSIUM

Environmental Toxicology students participate in an Annual Student Research Symposium, normally held in late June. Attendance at the symposium is open to all interested individuals, and Environmental Toxicology graduate students are required to attend, enrolling in ENTX 271 to receive credit. Students present a 15-minute talk detailing the current status of their dissertation research, with special emphasis on the progress of the last year. Students who are unable to present at the symposium must present a seminar during the regular seminar series, ENTX 270, in either the Spring or the following Fall quarter. Students who have not completed two quarters of enrollment in the program at the time of the Annual Student Seminar Day may participate in the seminar presentation at their option.

To receive credit for ENTX 271 the students must complete the following:

- Timely and properly formatted Abstract submission via WuFoo Form
<https://ucrbgsac.wufoo.com/forms/m1ktu5b518ypm68/>
- Symposium attendance and original research presentation

With the approval of the Graduate Advisor, students defending in spring will be allowed to waive the ENTX 271 registration requirement since this seminar is only offered each spring quarter. Student that waive ENTX 271 will not be required to present in the yearly student symposium.

Guidance or Dissertation committee members will provide written feedback on the research talk, which will be attached to the progress report and discussed at that meeting. A rubric for this feedback can be found in the appendix and the ETOX website.

4th and 5th year are expected to deliver a formal presentation in the ETOX seminar series (ENTX 270) during the Winter or Spring quarter, and hence typically do not present at ENTX 271. Their attendance is still required.

8. REQUIREMENTS FOR THE M.S. DEGREE

a. The Environmental Toxicology Program offers the Plan I M.S. Degree – Thesis Plan

Students must meet the unit requirements for the Plan I degree, satisfactorily complete the Environmental Toxicology core curriculum as described above (Section 3a), and submit an acceptable thesis.

Thirty-six units are required, of which at least 24 must be in graduate level courses. No more than 12 units of ENTX 201L, 290, 297 and 299 may be used to satisfy the unit requirement. All students must enroll in the Environmental Toxicology seminar (ENTX 270) each quarter and ENTX 271 each spring quarter.

No more than 3 units from seminar courses can be used toward degree credit.

The normative time for completion of the M.S. Degree is 2 years (6 quarters).

M.S. students must file for the Application for Candidacy no later than the third week of the quarter in which the degree is expected to be completed. The candidacy form should be obtained from the Graduate Student Services Advisor.

Preparation and Evaluation of the Thesis

The instructions for the preparation and submission of these are available from the Graduate Division. The Guidance Committee will also serve as a Thesis Committee for M.S. candidates. The committee may detail additional specific requirements which must be met for acceptance of the thesis. A final draft of your thesis is to be given to your Thesis Committee two weeks prior to the final oral examination.

A final oral examination will consist of an open research seminar, presented by the candidate and advertised to all students and faculty in the Environmental Toxicology Program. Following the seminar, the student will be subject to questioning by the Committee on the thesis research and on matters related to the general field of the thesis research.

b. The Environmental Toxicology Program offers the Plan II M.S. Degree – Comprehensive Exam Plan

Students must meet the unit requirements for the Plan II degree, satisfactorily complete the Environmental Toxicology core curriculum as described above (Section 3a), and successfully pass the Comprehensive Exam at the end of their first year (3rd quarter), but no later than the end of their second year (6th quarter).

Thirty-six units are required, of which at least 18 must be in graduate level courses. No more than 12 units of ENTX 201L, 290, 297 and 299 may be used to satisfy the unit requirement. All students must enroll in the Environmental Toxicology seminar (ENTX 270) each quarter and ENTX 271 each spring quarter.

No more than 3 units from seminar courses can be used toward degree credit.

The normative time for completion of the M.S. Degree Plan II is 2 years (6 quarters), but students can complete it within one academic year (3 quarters) if all requirements are fulfilled and the comprehensive exam is passed.

Comprehensive Examination

Purpose and expectations

All masters level students must demonstrate their proficiency in understanding and integration of theoretical concepts of environmental toxicology by passing a comprehensive exam. The comprehensive exam ordinarily takes place before the beginning of a student's 2nd year of study. The Comprehensive Examination is a standardized, written test generally offered once a year prior to the beginning of Fall quarter. Students will normally take the Comprehensive Examination following the completion of the core curriculum as described above (Section 3a). The Comprehensive Examination must be satisfactorily completed in order to complete all Plan II M.S. degree requirements. Satisfactory completion of the Preliminary Examination will satisfy the Comprehensive Examination requirement.

9. REQUIREMENTS AND PROCEDURES FOR THE PH.D. DEGREE

Students must meet all requirements detailed in the catalog. Beyond the required core sequence (Section 3a), all students must enroll in the Environmental Toxicology seminar ENTX 270 each quarter and ENTX 271 each spring quarter, and complete a program of courses to be approved by the Guidance Committee.

The Ph.D. degree will be awarded upon passing the preliminary and qualifying examinations, and preparation and submission of an acceptable dissertation.

The normative time for completion of the Ph.D. degree is 5 years (15 quarters).

a. Preliminary Examination

Purpose and expectations

All doctoral students must demonstrate their proficiency in understanding and integration of theoretical concepts of environmental toxicology by passing a comprehensive qualifying exam. There are three components of the qualifying exam: The first is a Preliminary exam which ordinarily takes place before the beginning of a student's 2nd year of study. The second component is that the student prepares a written proposal of a research project in preparation for the oral qualifying exam, which ordinarily takes place before the end of the 3rd year. As the 3rd component, the student undergoes an oral exam covering his/her research proposal as well as additional background on environmental toxicology and related topics. After the successful completion of all three parts of the exam, the student is advanced to Ph.D. candidacy.

Details related to the Preliminary Exam are provided below.

When to take the Preliminary exam

The Preliminary Examination is a standardized, written test generally offered once a year prior to the beginning of Fall quarter. Students will normally take the Preliminary Examination following the completion of the core curriculum. The Preliminary Examination must be satisfactorily completed in order to enroll for the seventh academic quarter in the Ph.D. program.

Structure and format of the exam

The Preliminary Examination consists of questions related to environmental, organismal and sub-organismal aspects of toxicology. These questions are intended to integrate and expand upon concepts covered in the core ETOX courses. They are designed to test the student's ability to synthesize and integrate concepts in toxicology, rather than merely reiterate the material covered in the Environmental Toxicology core curriculum. The questions are selected by the Preliminary Exam Committee consisting of the faculty members involved in teaching the core curriculum and other key faculty members in the program.

The Preliminary exam is comprised of both an oral and written portion. In the written portion, the students are given a list of questions for them to answer. Several days after the written exam, the oral portion takes place. The day and location are typically announced when the Preliminary exam is scheduled or at the time the questions are distributed. Each student meets with the Preliminary Exam Committee to answer questions, primarily about his/her written answers or on the distributed questions.

The students should demonstrate good writing skills, satisfactory understanding of the related concepts, and capability to integrate the knowledge learned from the core curriculum and literature reading. During the oral portion, the students are expected to answer the questions with college-level English, show good understanding in the related topics, and demonstrate good communication skills when interacting with the committee members. The result will be sent to the student and his/her supervisor after the oral portion.

Administration and evaluation process

The Preliminary Exam Committee administers the examination. The committee selects the questions to be answered during the written portion; grades the questions; interviews the students during the oral portion; and determines whether the student has passed the exam.

Based on the results of this examination, the committee will recommend continued progress in the program leading to appointment of a faculty qualifying exam committee, additional course work in specific area(s) of weakness or other remedial work, transfer to a terminal Master's Program, or total withdrawal from the program. The committee recommendation of transfer to a terminal Master's degree or withdrawal from the program goes through Curriculum and Student Affairs Committee (CSAC) to the Program Committee who will make the final decision. Upon recommendation of the Preliminary Exam, CSAC or Program committees, the preliminary examination can be taken a second time.

Students can request a meeting with the Chair or the individual committee members to discuss their performance on the qualifying exam. Particularly in the cases where a student has failed an exam, the student is strongly encouraged to arrange a meeting, to better understand his/her performance and identify ways to improve.

Access to exams and record keeping

The student's exam will be kept as part of the student's file until the student leaves the program. Students have access to their own answers on the hard copy of the exam, as well as any markings or notes on the hard copy but not separate notes that faculty might take for their own use in evaluating the exam.

b. The Qualifying Committee and Examination

The qualifying examination is an oral examination conducted by the qualifying committee. The qualifying committee, appointed by the Graduate Dean from nominations made by the faculty, will be composed of the student's major professor and four additional members, one of whom must be from outside the ETOX Graduate Program. Two of the faculty other than the major professor shall be nominated by the student in consultation with the Major Professor and be submitted to the Curriculum and Student Affairs Committee (CSAC) for approval (See Forms Section at <https://etox.ucr.edu/students/current-students>). Following CSAC approval, the remaining two members of the committee will be chosen by the student from a list of three faculty designated by the CSAC. A member other than the Major Professor shall chair the committee. Once the final committee has been selected, the membership is reported to the Graduate Student Affairs Officer, who will prepare the paperwork for Graduate Division approval.

The oral examination will test the student's knowledge in areas related to ETOX and his/her research field, as well as general subjects at the discretion of the Qualifying Committee. The student must write a research proposal that describes primarily the background about the thesis research project(s), research progress to date, and future research plan. The proposal format is flexible, typically 10-15 pages long if using single line spacing and font size 11, it should contain the following: abstract, objectives of the research (or specific aims), background, current results, and future research plan. Figures and/or tables, as well as references should be included. It will be helpful but not mandatory to attach a simple CV to the proposal that includes some background information like the research area, course work grades, and major achievements such as meeting presentations, publications and/or fellowship awards.

The proposal must be distributed to the Qualifying Committee at least one week prior to the Qualifying Examination date. During the oral examination, the student will deliver a 20-30 min oral presentation, and answer questions from the committee members.

The qualifying examination must be successfully completed by the end of the ninth quarter of full-time enrollment in the Ph.D. program. International students must advance to candidacy before the beginning of the seventh quarter in residency. Under exceptional circumstances, the qualifying examination may be taken a second time. Upon successful completion of the qualifying examination, the student will be advanced to candidacy.

c. 4th Year Seminar Presentation

Students in their fourth year of the program will give an oral presentation as part of the ENTX 270 seminar series. This will help with the development of presentation and public speaking skills, while allowing students to display their knowledge in the field. This requirement must be completed after students have successfully advanced in candidacy and will work with the faculty in charge of the seminar scheduling to schedule their seminar presentation. Students will need to enroll in ENTX 270 for a letter grade in the quarter they present.

d. The Dissertation Committee and Dissertation Defense

A dissertation committee composed of at least three members will be appointed after advancement to candidacy. This committee will help guide and evaluate the student's research. The Dissertation Committee will supersede

the Guidance Committee's role. The Dissertation Committee will usually have the same membership as the Guidance Committee.

A dissertation acceptable to all committee members must be submitted based upon independent, original research. The instructions for the preparation and submission of the dissertation are available from the Graduate Division. The committee may detail additional specific requirements which must be met for acceptance of the thesis. A final draft of your dissertation is to be given to your Dissertation Committee two weeks prior to the dissertation defense seminar.

Before approval of the dissertation, the student is required to orally present his/her research at a dissertation defense seminar. The seminar must be advertised to the campus community and is open to all who wish to attend. Following the seminar, the student will be subject to questioning by the Committee on the dissertation research and on matters related to the general field of the dissertation research.

10. FINANCIAL ASSISTANCE

Financial assistance is available through several mechanisms. The Environmental Toxicology Program has a limited number of Graduate Student Research and Teaching Assistant positions that are used for graduate student support. Most graduate students are supported on a continuing basis by Graduate Student Researcher Assistantships provided by individual Major Professors. In addition, UC Riverside offers several fellowships, which are available on a competitive basis. Nearly all Environmental Toxicology graduate students receive financial assistance by one or more of these mechanisms so long as they are enrolled full time and remain in good academic standing.

Students are also strongly encouraged to apply for support through federal agencies and private foundations. This is a valuable experience that will not only assist students financially while in school, but will also help to build up their resume and provide contacts for the future. Students wishing to explore these sources of support should speak to their major professor, consult the Annual Register of Grant Support and other similar directories either at the reference department of the library or through the Financial Support section of the Graduate Division Website at <https://graduate.ucr.edu/funding>

Others Sources of Support:

Dissertation Research Grants: Provide funds to doctoral candidates for research expenses associated with the dissertation. Applicants must be advance to candidacy and plan to be registered during the period of the award. Proposals may be funded up a maximum of \$2,000. These funds may not be used for preparing the dissertation copy or as a stipend for personal support. Contact the Graduate Division for applications.

Graduate Student Association (GSA) Minigrants: Provide funds to assist in paying the travel expenses of students who have been invited to present scholarly papers or posters at regional and national professional conferences. The program is administered by the Graduate Student Association and requires that departments agree to provide matching funds. Contact the GSA for mini-grant applications.

Support Definitions:

Graduate Students are supported from a variety of sources. Here is information on the various types of funding and definitions of the commonly used acronyms:

Graduate Division Stipend: Usually awarded as part of a larger fellowship package, these dollars go directly from Graduate Division to the student through the Financial Aid System. The student receives a stipend check at the beginning of the quarter in a lump sum.

Graduate Student Researcher (GSR): An employment title for graduate students conducting research (either independent or directed). Campus policy prohibits students from working more than 49% during the academic year. During academic breaks and the summer a student may be employed up to 100%.

GSR appointments at 25% or more during the academic year are entitled to GSHIP and PFR (see below). Financial support for GSR employees is provided by faculty extramural grants and departmental general funds (supplemented by the College of Natural and Agricultural Sciences). Students are paid in arrears (just like other university employees) and receive their first check after their first month of work. (i.e. a student who begins work in fall quarter does not get a check until November 1)

Teaching Assistant (TA): Also known as **Academic Student Employee (ASE)**. This employment title is for graduate students who are teaching part of a course (normally labs or discussion sections) under the guidance of a faculty member/instructor. Students may not be appointed at more than 50% during the academic quarter. If they are appointed at 25% or more time during an academic quarter, they are entitled to GSHIP and PFR (see below). There are many rules that are associated with this title because there is an employee contract; please See the United Auto Workers Union Contract for more information. Students are paid in arrears (just like other university employees) and receive their first check after their first month of work. (i.e. a student who starts work in fall quarter does not get a check until November 1)

Partial Fee Remission (PFR): Students who are appointed at 25% or more time during an academic quarter as a GSR or TA are entitled to PFR. This entitlement pays part (but not all) of the students' mandatory university fees. The Graduate Student Services Advisor provides Graduate Division with a list of the students who are eligible for this entitlement.

Graduate Student Health Insurance (GSHIP): Students who are appointed at 25% or more time during an academic quarter as a GSR or TA are entitled to have their GSHIP fees paid for them. The Graduate Student Services Advisor provides Graduate Division with a list of the students who are eligible for this entitlement. The actual dollar amount of GSHIP changes as the insurance prices change from year to year. Students who have private health insurance comparable to the University's coverage can apply for waivers of the GSHIP fees.

Non-Resident Tuition Remission (NRT or NRTR): Non-residents of California (either Domestic or International) who are appointed at 45% or more as a GSR and are PhD students are entitled to have their Non-Resident Tuition paid for them if it was included in their initial financial support package. The Graduate Student Services Advisor provides Graduate Division with a list of the students who are eligible for this entitlement. International students cannot establish residency and will owe Non-Resident Tuition for their

entire student careers. However, when a Ph.D. student advances to candidacy, the Non-Resident Tuition is waived for nine academic quarters. Domestic non-resident students must establish California residency by the beginning of the second year of study (*this does occur automatically; forms must be submitted*).

Fee Differential: The university mandatory fee amount for a student with a PFR and GSHIP (and NRTR for international students) entitlements. Students are required to pay this if it is not being covered by the PI.

Departmental Grant In Aid (DGIA): Departments or individual faculty members with unrestricted funds (many federal grants will not allow payment of student fees) can grant fellowship-like awards to individual students. This is most often used to pay the student's Fee Differential. The Graduate Student Services Advisor provides Graduate Division with a list of the students who are to receive these awards indicating the account and fund information. Graduate Division then pulls the money out of the account and awards it to the student through the Financial Aid System.

Technology Fee: a \$2 per unit assessed by the University for classroom technology needs. This is paid by all students.

Time Course of Ph.D. Program
in
Environmental Toxicology

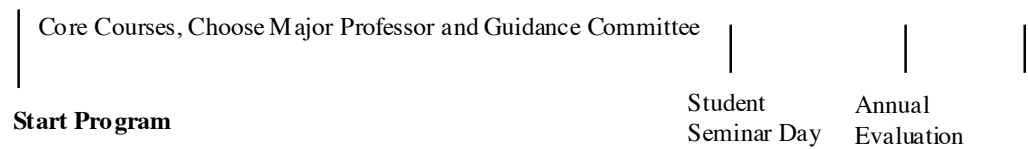
University of California, Riverside

First Year

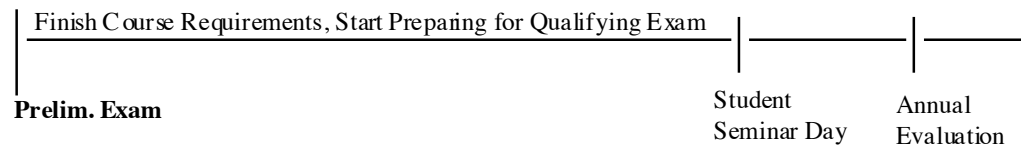
September

June

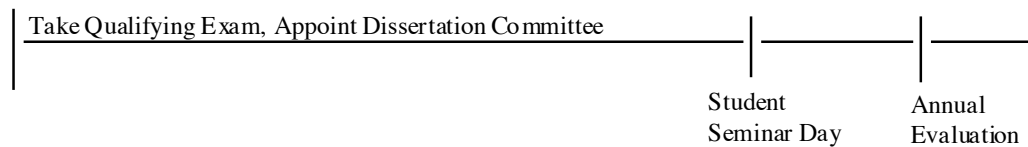
August



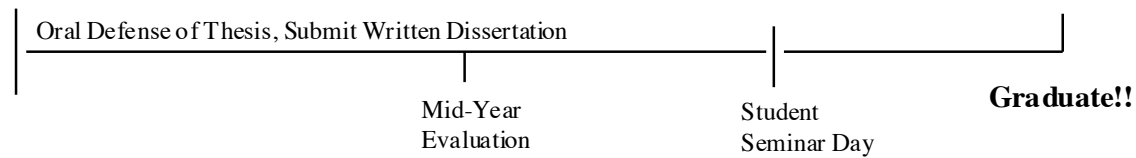
Second Year



Third Year



***Fourth/Fifth Year**



*Preferred time is four years. Maximum allowed is six years.

ENVIRONMENTAL TOXICOLOGY GRADUATE PROGRAM FORMS

- GUIDANCE COMMITTEE NOMINATION FORM
- QUALIFYING EXAMINATION COMMITTEE NOMINATION FORM
- YEARLY STUDENT PROGRESS REPORT

GUIDANCE COMMITTEE NOMINATION FORM

To be submitted via WuFoo Form

<https://ucrbsgsac.wufoo.com/forms/entx-guidance-committee-nomination-form/>

PROCEDURES FOR QUALIFYING EXAMINATION NOMINATION:

1) One month before the start of each quarter, the Graduate Student Services Advisor will send out a reminder to all ETOX students stating that if they plan on taking their Qualifying Examinations the following quarter they should request a nomination form and have it completed by the first day of the quarter. However, students may submit their nominations earlier if they wish.

The nomination form will provide instructions stating that the student may nominate the first three members of the committee (Major Professor, Outside Member, and Chair). Before submitting these names the student should confirm with each member their willingness to serve.

An abstract should be submitted with the nomination form.

2) One CSAC meeting will be set at the beginning of the quarter, in which the CSAC members will review the Qualifying Exam Committee Member Nominations, approve or disapprove of them and make recommendations for the three alternate members of the committee. If CSAC disapproves of any of the faculty suggested by the student, it will provide alternate names.

3) The Student Services Advisor will e-mail the student CSAC's recommendations.

4) Of the three alternate recommendations made by CSAC the student may choose two. It is the student's responsibility to confirm the faculty's willingness to serve. The student should set the date, time, and location of the examination.

5) **IMPORTANT!** Once the committee is confirmed, the student informs the Student Services Advisor of the committee membership at least two weeks before the scheduled qualifying exam date. The SSA completes a Form 2 nominating the Qualifying Exam Committee members and giving the date of the examination. This form is to be signed by the Graduate Advisor/Program Chair and sent to Graduate Division for final approval. If the committee is not approved by Graduate Division, the exam is void.

**ENVIRONMENTAL TOXICOLOGY GRADUATE PROGRAM
QUALIFYING COMMITTEE ASSIGNMENT**

Please submit an abstract with this form

STUDENT: _____

DATE: _____

Proposed Dissertation Topic: _____

QUALIFYING COMMITTEE: The Student nominates 3 faculty to serve on the Qualifying Examination Committee. The nomination must consist of the Major Professor, a faculty member from outside the Environmental Toxicology Graduate Program Faculty, and the Chair, who must be someone other than the major professor or the outside member. The Student is responsible for determining the nominees' willingness to serve before submitting the names.

CSAC will meet once at the beginning of each quarter to review the Qualifying Exam Committee Nominations from the Student (usually during the first week of the quarter). Therefore, students planning to take their examination must plan in advance to ensure that their committee will be approved for the quarter that they plan to take their exam.

Chair

Field of Specialization

Outside Member

Field of Specialization

Major Professor

Field of Specialization

TO BE COMPLETED BY CSAC ONLY:

CSAC will nominate three alternate committee members; of these three members, the student will choose two to serve on their Committee. It is the Student's responsibility to confirm each member's willingness to serve. Once the Committee is established, the student must coordinate a date, time, and location for the examination and e-mail this information to the Student Affairs Officer so that this can be forwarded to Graduate Division for final approval.

Alternate Member

Field of Specialization

Alternate Member

Field of Specialization

Alternate Member

Field of Specialization

Annual Review
Environmental Toxicology Graduate Program
To be submitted via DocuSign Form

<https://na3.docusign.net/Member/PowerFormSigning.aspx?PowerFormId=46979572-a11d-42a4-8997-328664bbc6fd&env=na3&acct=662bc3a1-ffe6-496e-b95c-f9ce7808bd42&v=2>

ANNUAL STUDENT PROGRESS REPORT (physical form)
Environmental Toxicology Graduate Program
To be submitted no later than September 1

NAME OF STUDENT: _____ **DATE:** _____

Degree Objective (M.S. or Ph.D.) _____ Date Entered Program: _____

Quarter of expected completion: _____

Academic Progress

Has the student satisfied all course work deficiencies? _____
If not, how will these deficiencies be met?

Proposed course work remaining to be taken:

Has student completed ENTX 200, 201 and 202? _____

Written qualifying exam completed? _____ If not, expected date of exam: _____

Oral qualifying exam completed? _____ If not, expected date of exam: _____

Satisfactory progress and GPA? _____

Research Progress

SYMPOSIUM PRESENTATION (provide feedback on oral presentation):

RESEARCH (describe research accomplishments this year and indicate goals for next year):

ACCOMPLISHMENTS (Please indicate any special accomplishments, meetings attended, awards, etc.):

SUGGESTIONS/COMMENTS:

STUDENT SIGNATURE

MAJOR PROFESSOR

GRADUATE ADVISOR

COMMITTEE MEMBER

COMMITTEE MEMBER

ENTX 270/271 Student Presentation Feedback

Date:

Presenter:

Questions	Scale	Average
Does the presenter explain the long-term goal of the project well?	10	
Is background introduction concise and with adequate information to understand the need of the project?	10	
Is the experimental plan explained clearly?	10	
Are the results analyzed in a scientific and logical way? For example, are the plots made professionally and does the student explain the results properly?	10	
Does the student show a good understanding of the current status of the project and have plans for the upcoming steps?	10	
Are the slides made in good quality (i.e. with clear fonts, proper usage of images and schematic illustration, and logical arrangement of presentation contents)?	10	
Does the student have good presentation skills (i.e. voice loud and clear, showing enthusiasm and confidence, using appropriate gestures, etc.)?	10	
Is length of presentation within the assigned time limits?	10	
Does the student demonstrate good communication with the audience during presentation?	10	
Does the student demonstrate ability to effectively address questions?	10	

Sum 100

Additional Comments: