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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, Biology, Cell Biology and Neuroscience, Chemistry, Entomology, Philosophy, Plant Pathology, and Environmental Sciences, as well as the Air Pollution Research Center, College of Engineering 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 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. In addition, all students must submit results of the Graduate Record Examination (GRE) aptitude tests to the program at the time of application. 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:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Equivalent Courses at U.C. Riverside¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology (2 quarters)</td>
<td>Biology 5A-5B (4-4)</td>
</tr>
<tr>
<td>General Biochemistry (2 quarters)</td>
<td>Biochemistry 110A,B (4-4) or Biochemistry 100²</td>
</tr>
<tr>
<td>Molecular Biology (1 quarter)</td>
<td>Biology 107 (4) or Biochemistry 110C (4)</td>
</tr>
<tr>
<td>General Chemistry (1 year)</td>
<td>Chemistry 1A-1B-1C (4-4-5)</td>
</tr>
<tr>
<td>Quantitative Chemistry (1 quarter)³</td>
<td>Chemistry 5 (5)</td>
</tr>
<tr>
<td>Organic Chemistry (1 year)</td>
<td>Chemistry 112A-B-C (4-4-5)</td>
</tr>
<tr>
<td>General Physics (1 year)</td>
<td>Physics 2A-2B-2C (4-4-4)</td>
</tr>
<tr>
<td>Calculus (2 quarters)</td>
<td>Mathematics 9A-B (4-4)</td>
</tr>
<tr>
<td>Statistics (2 quarters)</td>
<td>Statistics 100A-B (Introduction to Statistics, 5-5) or 231A-B (Statistics for Biological Sci, (4-4)</td>
</tr>
<tr>
<td>Physical Chemistry (2 quarters)⁴</td>
<td>Chemistry 109 (4) or 110A,B (4-4). Biochemistry 184 (4), Physical Biochemistry may be taken with Chemistry 109 or in place of Chemistry 110B.</td>
</tr>
</tbody>
</table>

¹ Parenthetical numbers represent unit credits
² Biochemistry 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 Students whose research emphasis is either biological or biochemical do not need to take Quantitative Chemistry unless required by their Guidance Committee.
⁴ Students whose primary emphasis is in a biological aspect of environmental toxicology can replace one quarter of physical chemistry with a course in Genetics, Physiology or Microbiology unless otherwise stipulated by the student’s guidance committee.
3. PROGRAM PERSONNEL

Officers in Environmental Toxicology:

- **Dr. Yinsheng Wang, Chair**
  Responsible for administering the Environmental Toxicology Graduate Program funding, teaching, and recruitment.
  E-mail: yinsheng.wang@ucr.edu, Office 332 Physical Sciences I, Ext. 22700

- **Dr. Janet Arey, Graduate Advisor**
  E-mail: janet.arey@ucr.edu, Office 229 Fawcett Lab, Ext. 23502

- **Dr. Paul Ziemann, Curriculum and Student Affairs Committee Chair**
  Responsible for approving student affairs issues, such as committee nominations, course waivers, and curriculum changes.
  E-mail: paul.ziemann@ucr.edu, Office Trailer 7 Environmental Sciences Ext. 25127

- **Dawn Loyola, Student Affairs Officer**
  Responsible for student recruitment, admissions, and advising on student affairs issues for enrolled students.
  E-mail: dawn.loyola@ucr.edu, Office 1140 Batchelor Hall, Ext. 24116

**BNN Office**

The Environmental Toxicology Graduate Program is housed under the Department of Cell Biology & Neuroscience located in Life Sciences 2840. There are some matters that are handled within that office. Listed below are individuals who you may be dealing with at some time.

Hours for the Department Office are 7:30a.m.-12:00p.m. and 1:00p.m. - 4:30p.m, M-F.

**BNN ADMINISTRATIVE UNIT GUIDE - STAFF DUTIES**

**ADMINISTRATIVE CONTACT INFORMATION:**

<table>
<thead>
<tr>
<th>Name</th>
<th>Email/Phone Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEV</td>
<td><a href="mailto:beverly.mcmull@ucr.edu">beverly.mcmull@ucr.edu</a> or x25902 (LSP 2740)</td>
</tr>
<tr>
<td>DEBBIE</td>
<td><a href="mailto:debbie.drake@ucr.edu">debbie.drake@ucr.edu</a> or x25935 (located in LSP 2725)</td>
</tr>
<tr>
<td>HEATHER</td>
<td><a href="mailto:heather.mcdermott@ucr.edu">heather.mcdermott@ucr.edu</a> or x25903 (located in LSP 2710)</td>
</tr>
<tr>
<td>JAY</td>
<td><a href="mailto:jay.palma@ucr.edu">jay.palma@ucr.edu</a> or x24367 (located in LSP 2705)</td>
</tr>
<tr>
<td>JERI</td>
<td><a href="mailto:jeri.haley@ucr.edu">jeri.haley@ucr.edu</a> or x22965 (located in LSP 2720)</td>
</tr>
<tr>
<td>JESSICA</td>
<td><a href="mailto:jessica.pacheco@ucr.edu">jessica.pacheco@ucr.edu</a> or x22282 (located in LSP 2730)</td>
</tr>
<tr>
<td>KRISTINE</td>
<td><a href="mailto:kristine.vitacek@ucr.edu">kristine.vitacek@ucr.edu</a> or x25904 (located in LSP 2715)</td>
</tr>
<tr>
<td>AMMIE</td>
<td><a href="mailto:ammie.debus@ucr.edu">ammie.debus@ucr.edu</a> or x23602 (located in LSP 2735)</td>
</tr>
<tr>
<td>TARA</td>
<td><a href="mailto:tara.pastucha@ucr.edu">tara.pastucha@ucr.edu</a> or x25937 (located in Biology Stockroom, Spieth 1216)</td>
</tr>
<tr>
<td>TERRI</td>
<td><a href="mailto:terri.romano@ucr.edu">terri.romano@ucr.edu</a> or x25909 (located in Spieth 1216A)</td>
</tr>
</tbody>
</table>
GENERAL FRONT OFFICE DUTIES:

HEATHER – Answers main BNN phone (x25903), Distribution of all unit keys and FOBs (Key hours: 7:30am – 10:30 and 3:30 to 4:30pm). Handles incoming and outgoing mail, Fed Ex/UPS/DHL, Media Requests, Seminar announcements and parking permits. Approves online room reservations for BSB1103, LSP 2550, Spieth 1239 and 3365.

KRISTINE – Back-up to above duties

PAYROLL/PERSOENEL:

JAY – Responsible for Staff recruitments and processing Payroll and Personnel transactions for faculty, staff, and students in the BNN Unit. Oversight of monthly payroll entry, online changes to employee appointments and back-up for monthly timesheets.

KRISTINE – (pending training) Responsible for entering monthly payroll hours, filing and general payroll/personnel assistance to Personnel Specialist (Jay). Completes necessary volunteer documents.

TARA – Collection of monthly timesheet and verifies calculation of hours.

AMMIE – Monthly reconciler of time entry (DOPE). Tracks and updates pending appointments changes in PPS.

DEBBIE, JESSICA, BEV – Payroll reviewers. JERI – Payroll Expense transfers and back-up to Jay. Each handle Annual Certifications for Contract & Grant Funding.

HEATHER – Distributes paychecks or other reimbursement payments.

ACADEMIC PERSONNEL:

KRISTINE – Processes Non-Senate Academic Appointments and Visas. Responsible for Faculty or other academic appointments. Assistant to the Chairs for Biology and CBNS, iEVAL and other Academic Personnel matters.

JUDY BLISS (BIOLOGY) LSP 2410 judy.bliss@ucr.edu or x26266 AND MARIE LANATHOUA-GOOD (CBNS) LSP 2405 marie.gaton@ucr.edu or x24431 – CNAS Academic Personnel Center – Merit and Promotion processing (handled centrally now through Dean’s office)

TRAVEL AND OTHER REIMBURSEMENTS:

HEATHER – Main contact for Travel and other reimbursements.

TARA – Back up contact for travel and other reimbursements.

PRINTING AND REPROGRAPHICS:

HEATHER – Main contact for all Printing and Reprographic requests

TARA/KRISTINE – Back-up for P&R

PURCHASING:

TERRI – Main Purchasing Agent for unit

TARA – Responsible for Stockroom maintenance and assists with general purchasing and Recharges

HEATHER – Bookstore recharges. She is also responsible for management of the equipment inventory for the unit.

ADAM – Purchasing and Stockroom assistance (also general assistance to BNN Unit).

COMPUTERS:

DEBBIE – Microcomputer support and back-up for Telecommunication assistance.

JESSICA – Back-up Microcomputer support.

AMMIE – Primary Telecommunication assistance (Enterprise Directory, telephone or data
Problems or installation requests).

CONTRACTS & GRANTS OR OTHER FINANCIAL MATTERS:

**AMMIE** – Monthly financial ledger reconciliation, Vehicle Inventory, Purchasing Card Administrator (ProCard) and transfers, Utility billing management, Web Recharge (with Jeri) for Storeroom, Fly food, Shop, Stem Core Center. Gift processing & misc deposits.

**DEBBIE** – CBNS Contracts and Grants – Proposals and ongoing managing of PI funds. Responsible for monthly statements to PIs and Stem Cell Center. One of Department SAAs (Systems Access Administrator).

**JESSICA P.** – Biology Contracts and Grants – Proposals and ongoing managing of PI funds. Responsible for monthly statements to PIs.

**JERI** – Supervisor for Financial Operations for BNN Unit; supervises above employees and back-up for their areas. Responsible for Contracts and Grants for the Natural Reserve System including proposals and ongoing managing of awards. Responsible for monthly statements for Interdepartmental Graduate Programs, Natural Reserve Centers and Departmental Operating Funding for Biology and Cell Biology & Neuroscience. One of Department SAAs. Back-up to Bev (FAO) and in charge for all BNN business in her absence.

ROOM RESERVATIONS:

**BSB/Spieth/LSP Locations** – 1239 (Darwin Room), 3365 (Moore Room), 1103 and 2550 (CBNS Conference rooms) can be reserved by logging onto internet reservation site: frs.ucr.edu (no www” required with this address). Heather will be primary contact for approval once you submit request through this website. (Tara and Terri are backup).

**BSB (additional rooms)** – 2101, 3101 (Conference Rooms). are reserved by emailing bnnadmin@ucr.edu and Heather is main contact, Terri and Tara are backup contacts.

**GRADUATE STUDENTS AND POST DOCS:** Terri assigns offices according to department listing of available space.

BIOLOGY SHOP:

**Laurie** – Constructs, redesigns and repairs mechanical, electronic and refrigeration equipment for teaching and research on a recharge basis – x2217 or laurie.graham@ucr.edu

FACILITIES:

**Laurie** – Contact for any equipment of mechanical problems. For problems such as lights, plumbing, or other building maintenance, you can submit a Trouble Ticket to Physical Plant’s website accessed through RSpace. Or please contact Heather in the front BNN office to assist with submitting one.

**Bev** – Contact for any renovation or other Physical Plant billable work order.

LAB PREP STAFF:

Assistance with instructing personnel on autoclave use (Spieth), requesting
service/repair on autoclaves
(Spieth), short term loan of lab equipment, use of teaching labs outside of
scheduled classes, trouble tickets
for teaching labs. Primary receiving of purchased goods. Located in Spieth 1229;
Phone: x23830 and email contact:
For general inquiries: labprepbiology@ucr.edu or you can direct your concerns to a
specific person:
esther.valdez@ucr.edu, jon.allen@ucr.edu, mickyong.kim@ucr.edu, xinxia.li@ucr.edu,
rachael.keast@ucr.edu.

If you do not find service you are in need of, please contact Heather in BNN front
office at x25903 and she will direct you.

4. ADMINISTRATIVE INFORMATION

a. Biological Sciences Graduate Student Affairs Center (BSGSAC): The BSGSAC (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. Dawn Loyola is the Student Affairs Officer who is
responsible for the program, but anyone in the office may assist you in her absence. Dawn 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. She 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 to the payroll
specialist(x2-4367). When meeting with the payroll specialist remember to take your Drivers 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. Students should obtain the card soon after registering for classes. Cards can be
obtained at the HUB (second floor). You can obtain more information at www.ucrcard.ucr.edu. The cost of a
photo identification card is $25.00, which will be billed to your GROWL account.

d. UCR E-Mail Account: All students must obtain a UCR e-mail account. To access information on how to
obtain an e-mail account, please visit http://cnc.ucr.edu/scs/email.html.

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. A
regular mailbox for mailing personal items is located on Eucalyptus Street (in front of Batchelor Hall).

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 you’re your arrival in California.

j. Useful Websites:

Biological Sciences Graduate Student Affairs Center
http://bioscigrad.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 Graduate Advisors is Dr. Janet Arey. 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 advisor.

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 200L  Analysis and Identification of Environmental Toxicants  (3)
- ENTX 203  Toxicology Laboratory       (3)
- ENTX 204  Genome Maintenance and Stability  (4)
- ENTX 205  Biotransformation of Organic Chemicals (4)
- ENTX 208  Ecotoxicology               (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)
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 are required to serve as a teaching assistant a minimum of two quarters. In order to be selected as Teaching Assistants, Graduate Students are required to fill out a “Graduate Student Application for Life Science Teaching Assistantships.” This application is available on the web, 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) 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 Affairs Officer and the Forms section of this Handbook. The forms must be signed by the Major Professor and the Graduate Advisor before submission to CSAC (via the Student Affairs Officer) for consideration.
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 (See Forms Section), although 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 Curriculum and Student Affairs Committee (via the Student Affairs Officer using the WuFoo form).

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 approximately 3 to 5 pages of text primarily describing laboratory progress, but also listing grades received in courses and other major achievements such as advancement to candidacy, meeting presentations, publications or fellowship awards. A short description of the plans for the coming year with regards to research, coursework, qualifying examinations, thesis preparation, etc. is also included. Attached to this text are tables and figures of data representing progress towards the thesis. This report is to be distributed to the Guidance Committee and the Graduate Advisor at least one week prior to the Annual Student Seminar Day. (See “Yearly Student Progress Report” in Forms Section). This report and the date of the annual committee meeting will be submitted via WuFoo form.

b) Environmental Toxicology students participate in an Annual Student Seminar Day, normally held in June. The Student Seminar Day 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 thesis research, with special emphasis on the progress of the last year. Students who are unable to present at the Annual Student Seminar Day must present a seminar during the regular seminar series, ENTX 270, the following 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.

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

- Timely and properly formatted Abstract submission (You will receive email notification of due date.)
- Timely Progress report (Written and distributed as described in (a) above).
- Signed report from Major Professor. This report will be forwarded to the Dean of the Graduate Division.
- Symposium attendance and original research presentation.

d) Within one week following the Seminar Day the student meets with the Guidance Committee to discuss progress over the past year. Discussion of research directions with free exchange of ideas with the Guidance Committee is appropriate at this time.

e) A written progress evaluation is prepared representing the consensus of the guidance committee. The major professor will prepare the written comments for the Guidance Committee, and all committee members will sign the report. The signed report will be submitted to the Graduate Advisor and Graduate Division for review.

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. REQUIREMENTS FOR THE M.S. DEGREE

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 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 Affairs Officer.

a. Preparation and Evaluation of the Thesis

The instructions for the preparation and submission of theses 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.
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

The Preliminary Examination is a standardized written and oral test offered once a year prior to the beginning of fall quarter. Students 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.

The Preliminary Examination consists of questions related to environmental, organismal and sub-organismal aspects of toxicology. These questions 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. A committee consisting of the faculty members involved in teaching the core curriculum administers the examination.

Based on the results of this examination, the committee will recommend appointment of a faculty qualifying committee, additional course work in specific area(s) of weakness, transfer to a terminal Master's Program, or total withdrawal from the program. The committee recommendation will go through CSAC to the Program Committee who will make the final decision. In exceptional circumstances, the preliminary examination can be taken a second time.

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). 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 Student Affairs Officer, who will prepare the paperwork for Graduate Division approval.

The oral examination will include the student's area of specialization and research field, as well as general subjects at the discretion of the Qualifying Committee. The student must prepare a written report describing primarily the thesis research problem and laboratory progress, but also listing grades received in courses and
other major achievements such as meeting presentations, publications or fellowship awards. A description of the plans for completion of thesis research should also be included. Attached to this text will be tables and figures of data representing progress towards the thesis. The written report must be distributed to the Qualifying Committee at least one week prior to the Qualifying Examination date.

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. 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 http://www.graduate.ucr.edu/FinSuptoc.html.

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 $1,000. 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 each month starting in late September (for the October 1 stipend check).
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 now because there is an employee contract; please See the United Auto Workers Union Contract for more information. The CNAS Dean’s Office distributes TA funds to the Departments. 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 Affairs Officer 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 Affairs Officer 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 Affairs Officer 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 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 leftover university mandatory fee amount for a student with a PFR and GSHIP and NRTR entitlements. Most students are required to pay this.

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 Affairs Officer 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.
Time Course of Ph.D. Program in Environmental Toxicology
University of California, Riverside

First Year

September

- Core Courses, Choose Major Professor and Guidance Committee
- Start Program

June

- Student Seminar Day
- Annual Evaluation

August

Second Year

- Finish Course Requirements, Start Preparing for Qualifying Exam
- Prelim. Exam

Third Year

- Take Qualifying Exam, Appoint Dissertation Committee

*Fourth/Fifth Year

- Oral Defense of Thesis, Submit Written Dissertation
- Mid-Year Evaluation

*Preferred time is four years. Maximum allowed is six years.
ENVIRONMENTAL TOXICOLOGY GRADUATE PROGRAM FORMS

- GUIDANCE COMMITTEE NOMINATION FORM
- GRADUATE STUDENT GENERAL PETITION
- 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/
UNIVERSITY OF CALIFORNIA, RIVERSIDE
Environmental Toxicology

GRADUATE STUDENT GENERAL PETITION

Name__________________________________Date______________________

REQUEST:

EXPLANATION:

_______________________________________ ________________________________
Signature of Student     Signature of Major Professor
(Representing all members of the guidance committee)

______________________________________ _______________________________
Signature of Curricula & Student    Graduate Advisor
Affair Committee Chair
PROCEDURES FOR QUALIFYING EXAMINATION NOMINATION:

1) One month before the end of each quarter BSGSAC will send out a reminder to all E-TOX students stating that if they plan on taking their Qualifying Examinations the following quarter they should pick up 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, Chair). Before submitting these names the student should confirm with each member their willingness to serve.

2) One CSAC meeting will be set during the first week of each 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 BSGSAC Office 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) Once the committee is confirmed, the student informs the Student Affairs Officer of the committee membership. The SAO completes a Form 3 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.
QUALIFYING COMMITTEE ASSIGNMENT

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
Environmental Toxicology Graduate Program
To be submitted no later than July 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

______________________________________________
COMMITTEE MEMBER