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I. WELCOME TO THE PROGRAM!

Welcome to the Molecular & Environmental Toxicology Program!

On behalf of all the faculty and staff, congratulations on joining the Molecular & Environmental Toxicology Program. The Molecular & Environmental Toxicology Center (METC) traces its origins back to 1970, when a small group of faculty presented a proposal to the University for a “Toxicology Center.” It has maintained a National Institutes of Environmental Health training grant (T32-ES007015) since 1975 and housed the Molecular & Environmental Toxicology Graduate Training Program (METP) since 1978. The focus is to generate an interdisciplinary training program in environmental toxicology with emphasis on understanding problems related to biologically active substances and potentially hazardous synthetic chemicals in our environment. During the early 2000’s, the program transitioned from the College of Agriculture & Life Sciences (CALS), to the School of Pharmacy and then to the School of Medicine & Public Health (SMPH). Since 2006, both the Center and the Program have been under the direction of Christopher Bradfield. With support from SMPH and the Graduate School, the Program continues to thrive. As of Spring 2016, the program has awarded 50 MS and 170 PHD’s.

We trust that your next (give or take) five years in this program will be rewarding, in terms of your didactic learning, development of research skills, and the camaraderie that you will feel with your peers. Science is not a spectator sport, and this will require a lot of effort on your part; however, when you are complete, you will be ready to enter the world as one of the best and brightest future scientists.

If ever you have questions or concerns, please do not hesitate to contact any of us:
Christopher Bradfield, Director, bradfield@oncology.wisc.edu, 608.262.2024
Mark Marohl, Student Services Coordinator, mdmarohl@wisc.edu, 608.263.4580

Intention/Role of Handbook
This handbook is intended for graduate students who are pursuing PhD and MS degrees in Molecular & Environmental Toxicology. The UW-Madison Graduate School is the ultimate authority for granting graduate degrees at the University. The Molecular & Environmental Toxicology Program is administered by the Molecular & Environmental Toxicology Center under the authority of the Graduate School. The Graduate School’s Academic Policies and Procedures provide essential information regarding general University requirements. Program authority to set degree requirements beyond the minimum required by the Graduate School lies with the Executive Steering Committee, which is made up of program faculty. The policies described in this handbook have been approved by said committee. Degrees and course requirements may change over time. However, students must meet the degree and course requirements in effect when they enter the program. In addition, administrative procedures and processes can change over time. Students are required to follow the procedures and processes listed in the current handbook. The information in this handbook should also be supplemented by individual consultation with your advisor and committee so that individual needs/interests and all degree requirements are met. Additional information is available via the Department's Web page. Students may also wish to consult the Graduate School's Web page.

Key Individuals and Roles
Dr. Christopher Bradfield (Dept. of Oncology) Program Director
Dr. Wei Xu (Dept. of Oncology) Associate Director
Dr. Chad Vezina (Dept. of Comparative Biosciences) Associate Director
Mr. Mark Marohl (Molecular & Environmental Tox) Graduate Program Coordinator

Program Vision/Mission statements
The Molecular & Environmental Toxicology Center seeks to promote research at UW-Madison and the UW System that addresses fundamental mechanisms through which toxicants produce adverse effects, provide ways to assess or predict the impact of these agents on humans and other species, and develop
biological and physicochemical processes that can control releases or deplete the environment of these harmful agents.

To that end, MET promotes research on suspected and known environmental toxicants, with an emphasis on multidisciplinary approaches. The graduate program has two broad areas: health-related toxicology and toxicants in the environment. Graduates of this program have a solid foundation in both areas with a command of skills in one or the other.

**Learning Outcomes (aka “Learning Goals” or “Training Goals”) and Assessments**

The Molecular & Environmental Toxicology Program, like other programs on-campus, was required to develop Learning Outcomes, as well as a plan to assess how these outcomes would be tracked. Information on the Learning Goals and Assessments can be found in the Appendix of this document, as well as on-line in the Graduate School “The Guide,” [http://guide.wisc.edu/graduate/medicine-public-health-school-wide/](http://guide.wisc.edu/graduate/medicine-public-health-school-wide/).

**Program statistics/prospects**

Our program typically has between 30-40 students in it at any given time, with six entering every fall and six graduating during the academic year.

Training and a degree in Molecular & Environmental Toxicology can prepare one for any type of position. Over the past ten years, we have graduated ninety-two students (PhD & MS) and of those . . .

- Sixteen are currently Faculty Members
- Fifteen are in Academia (Postdocs, Scientists, et cetera)
- Thirty are in Industry (bench / research scientists to CO’s)
- Ten are in Government (at local and national levels)
- Five are continuing in training
- Fifteen are in positions outside of the typical job tracks.

In short, our students find positions following degree completion.

Whatever your role in the program, we look forward to a mutually rewarding relationship over the course of our time together!
II. **STUDENT HEALTH AND WELLNESS**

*Your health is of paramount importance to us.*

*If you have your health, everything else will fall in to place.*

Maintaining good health is extremely important to student success, and our campus provides a wealth of resources to support not only physical health but also mental health. Be sure that your students know about these resources and take advantage of them before poor health affects their academic or research performance.

UW-Madison has a holistic resource for all things wellness called “UWell”. The site includes information and opportunities for wellness for your work/school, financial, environmental, physical, emotional, spiritual, and community. Go to uwell.wisc.edu/.

Students who pay segregated fees are eligible for University Health Services (uhs.wisc.edu/services/counseling/). There is no charge to students for many basic services including counseling sessions, because services are paid through tuition and fees. Personal health and wellness services are also available in addition to medical services.

**Securing Health Insurance Coverage**

Per UW-Policy, program administrators are not able to provide advice for payroll and/or benefits. The University’s Office of Human Resources holds both group and drop/walk-in hours for incoming graduate students throughout August and September to answer questions and inform students as to how to fill out their benefit forms. The office strongly recommends that students attend at least one of these events.

Graduate students who hold an appointment as an assistant of 33.33% or more or who have a fellowship may be eligible for health insurance and other benefits beyond University Health Services. Contact the staff benefits and payroll coordinator in the unit where you have been hired to select one of several health care plans within 30 days of your hire date. We strongly encourage students to have their insurance forms in before September 1st to assure proper start date.

Graduate students without an assistantship or fellowship who are currently enrolled can use the services of University Health Services (UHS), the campus health clinic. Many services are provided at no extra cost, including outpatient medical care during regular business hours, Monday through Friday. UHS is located in the Student Services Tower at 333 East Campus Mall, 608-265-5000. For more info, visit the UHS web site at uhs.wisc.edu.

Prescription medications, emergency room visits and hospitalization are not included in UHS benefits. Therefore, supplemental insurance covering these drugs and services is recommended for all students and is required for international students. The UHS Student Health Insurance Plan (SHIP) is an excellent option for many students. Contact the SHIP office at 608-265-5600 for more information.

**Disability Information**

Students with disabilities have access to disability resources through UW-Madison’s McBurney Disability Resource Center. As an admitted student, you should first go through the steps to “Become a McBurney Client” at mcburney.wisc.edu/students/howto.php

Additional [non-academic] disability campus resources (not found through the McBurney Center) can be found at mcburney.wisc.edu/services/nonmcburney/index.php

The UW-Madison Index for Campus Accessibility Resources can be found at wisc.edu/accessibility/index.php
**Mental Health Resources On and Off Campus**
University Health Services (UHS) is the primary mental health provider for students on campus. UHS Counseling and Consultation Services offers a wide range of services to the diverse student population of UW-Madison. They offer immediate crisis counseling, same day appointments and ongoing treatment. Go to uhs.wisc.edu/services/counseling/ or call 608-265-5600.
UHS service costs are covered for students through tuition and fees.

There are many mental health resources throughout the Madison community, but UHS Counseling and Consultation Services is the best resource for referrals to off-campus providers. Call 608-265-5600 for assistance in finding an off-campus provider.

**Bottom Line**
Your health really is of paramount importance to us. If you are EVER having an issue that seems too big to handle alone, do not hesitate to visit any one of our staff (instructors, director, coordinator). We are happy to work with you to try to find the path to a solution.
III. PROGRAM STRUCTURE

Governance Model:
The Molecular & Environmental Toxicology Program is an interdisciplinary program housed in the School of Medicine & Public Health (SMPH). Its Director, Professor Christopher Bradfield, answers to the Dean of SMPH (Basic Research) Richard Moss. As director, he “steers the ship” towards its goal of training the next generation of great scientists in toxicology, using the advice of multiple committees. Through a combination of strong graduate students and the networks of faculty and alumni, the Program looks forward to continued growth and reputation in the field.

Executive Committee Work:
The Program’s Executive Steering Committee is the main decision making body of the program and designed to help guide the program, providing suggestions for strategic growth and improvement for the program. The committee members, which are chairs of each METC committee, provide guidance on what their committees see as the major necessities of the program moving forward. This committee meets annually and is made up of the following members:

- Wei Xu (Associate Director): Dr. Xu is a diligent trainer in the program, training three predocs and one postdoc within the program.
- Chad Vezina (Associate Director): Dr. Vezina entered the role of Associate Director following a retirement. He has an active lab that studies prostate disease, mentoring two students and serving on the committee of many others.
- Colin Jefcoate (Chair, Curriculum Committee): Involved since METC’s inception, Dr. Jefcoate is the coordinator of MET 625 and has actively worked to design curriculum and courses to help students gain didactic experience in the field of toxicology.
- (Vacant) (Chair, Graduate Achievement Committee): This chair provides expertise and recommendations for students, faculty members, and the program for a variety of matters.

Further Committee Leadership:
Five further committees are vital to the sustainability of the program.

The Admissions Committee meets each year to review applications and identify students to interview and admit to the program for the coming fall. The members of this committee change every year, based on availabilities and interest. Dr. Bradfield serves as the committee chair. The other two members who review the applications vary, but neither are from the same school, so there is a diversity of opinions in review.

The Program’s Training Grant Committee reviews applications to determine slot allocation and manages fund allotments for the METC Training Grant. This standing committee is Christopher Bradfield, Wei Xu and Chad Vezina. At times when the applicant pool for a slot requires the recusal of one (or more) of the members, other trainers are requested to review applications on an ad hoc basis. This committee meets 2-3 times per year, depending on how often there are calls for training grant appointees.

Another critical committee, which examines student body (general) and student (specific) issues is the Graduate Achievement Committee. This committee, currently without a chair, looks at student petitions for waivers to their curriculum, and examines and defines the program requirements. Current members are Chad Vezina and Joan Jorgensen (both Department of Comparative Biosciences), as well as the president of the Student Liaison Committee, an annually elected student body leader. This committee tends to meet annually, but can meet more or less, depending on issues.

The program’s Curriculum Committee reviews the course material and works to identify what changes are needed and what materials need to be taught, perhaps as new classes. This committee is chaired by Colin Jefcoate (Coordinator of Tox 625) and includes the other coordinators of the core courses,
including Hao Chang (626), Joel Pedersen (631), William Karasov (632-3-4), and Christopher Bradfield (ex officio, 800 and 801). This committee tends to meet annually, more often if changes are occurring.

A non-standing “Awards Committee” is called to independently review documents and nominations for the Program, selecting a winner who will go on for some award or nomination. The committee is formed ad hoc from faculty members who are not on the potential nominees’ advisory committees, and they review the intellectual merits of the program’s nominees. They determine the winner and provide feedback, if needed. The last meeting of this committee was for a 2015 WARF Scholarship, for which the program could nominate two students.

The program did a faculty affiliation around the time of the Program Ten Year Review in 2016. A full listing can be found on the MET website.
IV. ADVISING

Advisor Selection
Students conduct three one-month rotations during their first semester, funded by SMPH, to help identify a lab / advisor. When a lab is identified, the lab assumes responsibility for the student's funding for the duration of their time in graduate school. This approach helps ensure a stronger match between student and mentor. Once joining a lab, the majority of students are funded by Research Assistantships (RA’s). These appointments are covered by the mentor’s research grants, which provides a stipend and tuition remission. A mechanism available for our URM students is for the PI to identify an R01 supplement, allowing for the PI to fund his/her student in addition to any other personnel that are on the grant.

The advisor should be a faculty member whose expertise and project/research interests match closely with those that the student intends to acquire. Students are encouraged to gather information from courses, faculty and student seminars, the program website, and publications to help identify faculty with matching interests. While no faculty member is obliged to accept a student's request to serve as advisor, invitations are usually accepted except in cases where the faculty member judges that a different advisor would serve the student's needs better. For more information see the Advisor policy from the Graduate School, grad.wisc.edu/acadpolicy/#advisor.

A student who later decides that a different faculty advisor would be preferable should discuss this with the current advisor and then feel free to seek the change. Selection of an advisor, or a change of advisors, should be based on the faculty member's ability to guide the student expertly into the chosen area of interest/research. When a student has selected, or changed, advisors, file the appropriate forms with your program's graduate coordinator.

Advisor / Advisee Roles
Advisor:
The advisor (research mentor; otherwise referred to as his/her PI) serves a dual role: first, to assist the student in acquiring the highest level of knowledge and competence in the field that is possible; and second, to chair the committee that will determine whether the student has performed acceptably at each of his/ her degree milestones. S/he guides the student through the process of scientific research, providing the tools necessary for the student to move towards becoming a successful, independent scientist. This advisor has the most 1:1 contact with the student. The advisor is responsible for the student's funding. It is under this tutelage that the student learns how to become a scientist.

The chair or co-chair of the committee must be Graduate Faculty from the student's program. Advisors may often play a role in tracking the student's progress toward degree completion, assisting with course selection and academic planning, and helping students identify possible research mentors, committee members, and opportunities.

Students are required to meet with their advisor and advisory committee formally once per year to have progress formally evaluated by faculty members with relevant expertise. This process for committee meetings is described later in this chapter under “Committee Meetings.” It is presumed that students meet with their advisors at least once per week, for either a lab meeting or some other informal gathering to discuss the student's results and plans. No records of these routine meetings are requested; although, we encourage dissatisfied mentors and students to contact the graduate coordinator or director when progress is not satisfactory.

Advisee:
Since the advisor's role can vary, students should discuss roles and expectations with their advisors or prospective advisors.

Both the student and the advisor have a responsibility to make their expectations clear to each other.
Committee Meetings
There are many ways to monitor successful progress in the program. The student’s advisor is the primary source for this information. The annual committee meeting with accompanying paperwork identifies whether or not there are any issues that need to be addressed.

Committee meetings are a formalized opportunity for you to sit down with the four members of your advisory committee and discuss your project, your set-backs, and your progress; as well as an opportunity to gain advice on future directions and troubleshooting.

These meetings are required annually. Failure to do-so can result in a hold on your registration.

Each member of your committee will be required to fill out their page from the Individual Development Plan / Progress to Degree packet. You will be required to provide them a copy of the sheet to write their comments on. A copy of this form can be found in the Appendix.

Depending on the seniority of the student, the meeting should follow particular guidelines. Please continue below for the outlines.

First Committee Meeting

The first meeting is for the student to meet with the whole committee face-to-face and at the same time. This is also the opportunity for faculty members to meet and determine whether or not they are appropriate choices. The task list and agenda should be as follows (or similar):

1) The student should review classes (~5mins)
   a. What they took
   b. What they will take
2) The student should discuss the potential direction of their project (~10mins)
3) The student will show and discuss their preliminary data (~15-20mins)
4) There should be a discussion about committee membership to assure that the expertise of all the members is correct (~5mins)
5) The student should receive input and feedback from the committee regarding their coursework and project directions (~10mins)

This initial meeting should be between 30-60mins; no more than one hour.

Second (Preliminary Exam Part B) Meeting

This committee meeting is to achieve dissertator status. The description is documented in Chapter V / Doctoral Degree Requirements.

Subsequent Committee Meetings

Subsequent committee meetings allow the student to have his/her progress evaluated by their committee. This provides the opportunity to have questions answered, methods explored, and document progress for the office. The task list and agenda should be as follows (or similar):

1) The student should remind the committee of the direction of the project (~10mins)
2) The student will show and discuss their data (~15-20mins)
3) There should be a discussion about any pitfalls that the student may be experiencing (~15mins)
4) The student should receive input and feedback from the committee (~10mins)

This meeting should be between 60-90mins; no more than one and one-half hours.
Defense
This committee meeting is to graduate. The description is described in Chapter V / Doctoral Degree Requirements.

Additional Advising Contacts within the Program
In addition to a student's PI, there are two other important advisors that they will have during their time in the program:

1) The Director (Christopher Bradfield): The Director serves as the initial advisor. The Director works with students during their first semester, recommending classes, providing insights on potential advisors, and addressing concerns that may arise. Students can always meet with the Director at weekly seminar and throughout their tenure in the program.

2) The Program Coordinator (Mark Marohl): The Program Coordinator serves as the students’ academic advisor, aiding students in the non-scientific aspects of the program, including course selections. He monitors their progress, assures they achieve Graduate School goals and requirements, prods them towards milestones, and helps to act as an intermediary for them with problems, be them academic, laboratory, or life.

Further Advising Contacts
Students should always reference the program's website, this Handbook, the Graduate School's website (grad.wisc.edu), and the Graduate School’s Academic Policies and Procedures (grad.wisc.edu/acadpolicy/) for answers on various program-related questions. However, when students need further clarification on any of these policies or procedures they should contact the Graduate Program Coordinator. The Graduate Program Coordinator may play a role with issues including satisfactory academic progress, academic deadlines, graduation completion, program-related forms, advising/course holds and permissions, and course offerings.

Appendix Documents
Please see the appendix for the Progress to Degree form; Research Advisory Committee form; and a document on thoughts to consider when conducting rotations.
V. DOCTORAL DEGREE REQUIREMENTS

Program Basics
Students in Molecular & Environmental Toxicology have training in two broad areas: health-related (molecular) toxicology and the fates of toxicants (environmental) toxicology. All students graduating with a PhD will have a grasp of both molecular toxicology (e.g., biochemical & genetic toxicology, immunotoxicology, neurotoxicology) and environmental toxicology (e.g., ecotoxicology, physical/chemical behavior of toxicants, toxicant remediation). A specialization in one or the other is a product of a student’s research and is determined by the focal area of the major professor / advisor / PI. There is no defined track or concentration.

Ours is a PHD-first program, meaning that if we admit you, we expect that you will complete a PhD. However, we realize that that is not always the case. It is possible to leave the program with a terminal masters, presuming, of course, that the requirements to that degree have been met. Should you be considering this option, please, please, PLEASE speak with the Program Director and Program Coordinator. They will want to work with you to determine if that is, in fact, the best option for you, or if there are other options that should be explored. Information about the Masters Degree Options is available in Chapter VI.

While we want to achieve 100% retention to doctorate degree, it is much more important to us that YOU achieve all that you want to and are in a position to be successful in your future career choices.

Credits and Courses
Per University Policy, you will take a minimum of 51 credits, of which, 26 will need to be “graduate school level.” Many of our students pass that mark between the didactic and elective courses, seminars, and methodological 990 research credits, where a student is working on research project(s), writing papers, and developing a thesis for defense. The Program Coordinator will assure that you will come in well over that number, so you will not need to worry about that.

You should take 8-15cr as a predissertator (fall and spring) with at least 2cr during the summer. When you are a dissertator, you will take 3cr and 3cr ONLY every semester.

Grading is different than in undergraduate studies. You are required to hold a B (3.00) average. You are required to get a B or better in your core courses. Lower grades in your electives are able to be “balanced out” by higher marks. Failure to maintain a 3.00 average will get you placed on Academic Probation.

You are required to take 22 didactic credits. Of these, 15cr will be from the following core courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
<th>Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicology 625: Toxicology 1</td>
<td>3cr</td>
<td>Fall, 1st year</td>
</tr>
<tr>
<td>Toxicology 626: Toxicology 2</td>
<td>3cr</td>
<td>Spring, 1st year</td>
</tr>
<tr>
<td>Toxicology 631: Chemical in the Environment</td>
<td>3cr</td>
<td>Fall, 1st or 2nd year</td>
</tr>
<tr>
<td>Toxicology 634: Ecotoxicology</td>
<td>1cr</td>
<td>Fall, “Odd year”</td>
</tr>
<tr>
<td>Toxicology 801: Scientific Communication</td>
<td>2cr</td>
<td>Summer, 1st or 2nd year</td>
</tr>
<tr>
<td>OBGYN 955: Responsible Conduct in Research</td>
<td>2cr</td>
<td>Fall, 1st year</td>
</tr>
<tr>
<td>OBGYN 956: Advanced Responsible Conduct</td>
<td>1cr</td>
<td>Spring, Dissertator Year</td>
</tr>
<tr>
<td>Total:</td>
<td>15cr</td>
<td></td>
</tr>
</tbody>
</table>

In addition, you will be required to take Toxicology 800 (Seminar) and Toxicology 990 (Research, under your advisor’s section) every semester.

Along with the 15 core-course credits, you will be required to take 7cr more of electives. These electives are to either fill in gaps in your learning or to give you a better background to your research. These are
best selected in consultation with your mentor. Generally speaking, “molecular-focused” students take coursework in cancer biology and “environment-focused” students focus on cell signaling and soil sciences.

We anticipate that your didactic courses (what is required to move towards dissertator status), will be done by the end of year two.

**Breadth Training:**
The main focus is to create the next generation of world-renowned scientists in environmental health, able to be leaders at all levels of academia, government, and industry. The quality of the students' research, their published manuscripts, and their public presentations are the biggest indicators of success at future levels. Accomplishment requires training from the PI, other mentors, practice in writing and presentation through courses and other activities, and professional development.

Breadth knowledge is emphasized and directed by the student’s interests, as well as through direction from the mentor and advisory committee. The committee watches a student’s development and provides insights into opportunities for learning, research, and other intangibles, helping to ensure that a student’s research focus is not pinpointed, but also open to broader scientific lines of inquiry.

Breadth requirements are more than adequate to help students as they are continuing on with their careers. Students will be judged primarily by the quality of their research and their ability to communicate ideas. Our students are not required to complete a minor, allowing us to emphasize core courses that adequately develop the ideas of “molecular toxicology” and “environmental toxicology” while, at the same time, not overburdening the students with further elective credits. Should a student think a minor would be suitable for future aspirations, s/he is encouraged to begin to participate in that coursework as early as the 2nd semester.

**Doctoral Minor Requirement:**
The program currently does not have a doctoral minor requirement. Should you be working on a minor, you will need to meet those requirements, as well. The requirements for the minor are able to serve as the MET program electives.

**Milestones & Estimated Timeline:**
Listed with descriptions are the ten major program milestones.
- **Completion of course work:** All course completed.
- **Annual Thesis Committee Meeting:** All students are required to have an annual committee meeting of their advisors to monitor progress. The committee meeting is held to assure that adequate progress towards degree is being made and the student can receive help, should s/he encounter difficulties. Documentation of scientific progress is submitted to the Director and METC Office for review.
- **Presentations:** All students must give two formal scientific presentations to the METC program. These are typically given at METC 800 course and are reviewed by a subset of students and faculty with a written critique and survey.
- **Teaching Symposia:** As part of their training, students must attend one short course on teaching. Most of our students can take a one-day mini-course on the teaching experience given by our senior graduate students in the fall of each year, which covers the realities and day to day responsibilities of a course director and/or TA.
- **Teaching:** As part of their graduate training, students must serve as a formal TA or teaching preceptor in one course. This is monitored and assured by program administration. Students gain experience with designing and grading exams, lectures, and leading discussion sections. This is typically completed by year two.
- **Preliminary Exam A:** Preliminary Exam A is considered completed once all of the above criteria are met and the final grant proposal document is reviewed and given a passing grade by the 801 Course instructor. The above steps are almost always completed in the first two years.
• **Preliminary Exam B**: This exam consists of a written proposal using NIH guidelines or NSF guidelines for grants, as well as a formal presentation of preliminary results and description of future experiments in an exam setting. The student’s research advisory committee reviews the proposal, attends the student’s presentation of the ideas, and examines the student about the topic. If satisfied, the committee signs the student’s warrant and the student will move to candidacy (dissertator status). This is typically completed in year 2, no later than by the end of year 3.

• **Six Month Meeting**: This is the next-to-last formal meeting that a student has with his/her committee prior to producing a dissertation. At this meeting, the student will present the thesis outline and gain input on what further experiments may need to be done to complete the degree.

• **Defense**: For a student to complete his/her degree in Molecular & Environmental Toxicology, s/he must write-up his/her research in the form of a dissertation, present it in an open seminar, and then defend it in a “closed door” session with the advisor and research advisory committee. The committee will discuss the student’s work, consider whether the work represents a significant contribution to environmental health, and also whether or not any corrections and/or further experiments need to be done. Once the student has met these requirements, the student will be able to deposit the dissertation with the Graduate School. For the program, the defense typically happens between years five and seven, with the average at 5.5 years.

**Sample Timeline**:

<table>
<thead>
<tr>
<th>Year</th>
<th>Accomplishments (Fall, Spring, Summer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year</td>
<td>Rotate &amp; Find Lab Courses: 625, 631, 634 (odd), 955, 800, 990 (012)</td>
</tr>
<tr>
<td>Second Year</td>
<td>Continue Research Courses: 631, 634 (odd), 800, 990, Electives Preceptor in Core Course</td>
</tr>
<tr>
<td>Third Year</td>
<td>Continue Research Courses: 800, 990, Electives?</td>
</tr>
<tr>
<td>&amp; Beyond</td>
<td>Continue Research Courses: 800, 990</td>
</tr>
</tbody>
</table>

**GRADUATE!!!**

**Prelim B Document:**
The committee meeting that must be completed to move to candidacy (dissertator status) is the Prelim Exam. This meeting requires that a proposal outlining the experiments a student will complete over the next 2-3 years be created and presented to the committee. This meeting is typically had after didactic requirements are all completed.

For this meeting, you will need to have a prelim warrant requested. Please contact the Program Coordinator ~1 month in advance to request the warrant from the Graduate School.

Your assignment for this meeting will be to modify your proposal from the Prelim A course, using that as a guide, with input from your mentor. (please note that, although your mentor should give you input, this work is to be your own) Your plan should be drawn-up with experiments and designs that should be able to take you through to graduation (2-4 years from the date of your prelim).

The proposal that you write should be in NIH R01 proposal format*, with:

- 1 pg Title Page
- 1 pg Project Summary & Relevance
- 1 pg Specific Aims
• 12pg Research Plan
  o Part A: Background & Significance
  o Part B: Innovation
  o Part C: Approach
• References, pages as needed

* - If your advisor / lab typically uses a different format or you are encouraged to submit a fellowship for a different agency, a student should follow those guidelines.

About two weeks before your preliminary exam, you should get the members of your committee at least an electronic copy, if not a hard copy, of your preliminary exam. They will review your experiments and future directions, questioning it after you are done presenting your data to them at the meeting. Questions about this may include (but are certainly not limited to), “Why are you using this model?” “What happens if you don’t find the expected results?” and “Have you considered this vehicle of experimentation?”

The meeting agenda should fall along these lines:

1) The student will present and discuss their preliminary data (~15-20mins)
2) The student will present their structure for future directions an experiments (as based upon the preliminary exam document) (~15-20mins)
3) The committee should question the student to see how they respond to how prepared they are to continue forward (~15-20mins)
4) The committee should discuss (behind closed doors) the student’s progress and whether or not to pass him on his preliminary exam (~15mins)
5) The student should return and receive input and feedback from the committee regarding their future direction(s) (~10mins)

This meeting should be between 60-90mins, it should be no more than an hour and one-half.

Successful completion of this milestone will result in all of your committee members signing off on your warrant. When this happens, return to the office and the Program Coordinator will complete the rest of the steps to process it and move you to candidacy / dissertator status.

Learning Goals & Outcomes:
The Graduate School has completed a survey of program learning goals and a timeline for tracking the assessment of said goals. These can be found on the Graduate School website under “The Guide,” as well as in the appendix of this document.

Random Requirements & Opportunities:
Seminars:
• Required to present in MET 800 Annually
• Annual Retreats held in summer
• Professional and personal development opportunities led by students (see later chapters)
• Visiting speakers across campus – take advantage of this resource!

Internships:
The office will work with our networks and alumni to try to find you an internship, should you be interested in participating in one. (Note: While you may like to do one, your advisor may have different ideas; make sure to check with him/her, either during rotations or before applying)
Publishing:
While there is no formal requirement to publish, it is generally accepted that students should have at least one publication before graduating.

Paperwork:
Major paperwork required by the office includes:
- Certification (due Spring 1st year): General information about your background and interests
- Committee Form (due Spring 1st year): Allows office to know faculty and otherwise that make up your research advisory committee, those that will help guide you through graduate school and ultimately determine your completion.
- IDPs (due Spring 1st year): Requirement of NIH and the Grad School; only a receipt is needed from AAAS website. These are referenced further in Chapter XV / Professional Development and Career Planning.
- Progress to Degree form (due annually following committee meeting): An IDP-like document that allows for student and advisor to have an honest and frank discussion about laboratory progress. Committee members will have the opportunity to comment, as well.

Choosing Advisor, Committee, and Topic
It is hoped that, after the first semester of rotations, students will have a permanent mentor (PI) identified who will serve as their research advisor. When students arrive, they conduct three, one-month rotations in the laboratories of three potential advisors. The main criteria that faculty are selected on are:
- interest the student has in the faculty member’s research
- b) the faculty member’s interest in mentoring that student
- c) funding availability for the student.

As the rotation period concludes, the student, the preferred advisor, and program director discuss the possibility of the student joining that faculty member’s lab. If there is a mutual interest, the student can join that lab and that mentor becomes the advisor. Ideally, the mentor is identified at the beginning of December / end of the student’s first semester. Should there not be an agreeable match following the first semester, a student may continue to rotate, provided adequate progress and availability of funding.

During the course of the student’s graduate career, should there be dissatisfaction by one or more parties, a change in laboratory may be prompted. The office will work to identify post-lab funding, so the student continues to receive a paycheck. A rotation in a potential new mentor’s lab is arranged. A new match is sought quickly, so as not to set the student back too much time. It is critical that, if a change in advisor needs to happen, that is resolved as quickly as possible.

As important as the advisor is the student’s Research Advisory Committee. This group will monitor the scientific growth of a student, provide assistance when there are difficulties, advice when things are going well, and can serve as a “buffer” between the student and an advisor. A student selects his/her committee with the consultation / advice of the advisor and through other relations that they have made on-campus. A committee consists of 4 members (one is the advisor), one from outside of METC and one from outside of the advisor’s home department (the outside of METC and the home department can be the same person). These rules are consistent with those of the Graduate School. Committees can be modified as needed and typically change based on new research directions. In addition to annual committee meetings, the student will have his/her milestone documents (Preliminary Exam B and final thesis) reviewed by the committee. We recommend that Prelim B is delivered to the committee at least one week before the exam and the defense delivered at least two weeks ahead of that date.

Dissertation and Oral Defense
You can’t get something for nothing; it is expected that you will write a dissertation to complete your PhD studies. These are generally five chapters – an introduction, a conclusion, and three middle chapters, which could just be three papers from your research. (please note that you will need to check with the publishing agency about copying your papers and using them in your thesis)
There are formatting guidelines that you will need to follow. These are on the Graduate School website. The minute that you tell the Program Coordinator that you are thinking about defending, you will be sent that link. Furthermore, the office has access to copies of previous dissertations, should you like to review those.

This is another meeting where you will need a warrant; please let the Program Coordinator know ~1 month out when you are having your defense so the Program Coordinator can request your warrant from the Graduate School.

Ideally, you will have your near-final draft completed between 2-4 weeks before your defense, so that you can get the electronic version (hard copy by request) to your committee members for review.

Plan on two hours for your defense. The first hour will be an “open door” session, during which you will present your research and data from your years in the lab. The second hour, the “closed door” session, will consist of just you and your committee. You will be questioned about your methods, your research, and your results. You will eventually be dismissed from the room, where the committee will deliberate and make their recommendation on passing.

Provided that you are passed, they will sign the warrant, but they may request that you do some final experiments before submitting your dissertation.

After you have made any and all corrections, you may submit your dissertation to the Graduate School for final review. They will go through the dissertation, review and take your signed warrant, and voila! you have completed all of your requirements – CONGRATULATIONS, DOCTOR!

Don’t worry, the Program Coordinator will provide you this information repeatedly as you move forward with your degree.
VI. MASTERS DEGREE REQUIREMENTS

Program Basics
Students in Molecular & Environmental Toxicology have training in two broad areas: Health-related (molecular) toxicology and the fates of toxicants (environmental) toxicology. All students graduating with an MS will have an understanding of both molecular toxicology (e.g., biochemical & genetic toxicology, immunotoxicology, neurotoxicology) and environmental toxicology (e.g., ecotoxicology, physical/chemical behavior of toxicants, toxicant remediation). There are two means to receive this degree: A one-year, Curricular-based MS and a Research-driven MS, which typically takes 1.5-3 years.

Students have the option of participating in a Research or Curricular Masters Program. Students participating in the research masters will be in a laboratory, conducting (original) research and produce a document, either based upon that research or as a literature review-style assessment of the field. Those students participating in a Curricular masters will not be in a laboratory and will have an extensive curricula designed to provide a didactic knowledge of molecular toxicology, environmental toxicology, and other fundamental scientific knowledge. This MS is designed to be completed in one year and is capped by a seminar presentation that may or may not include a written document.

Students accepted for a masters are not guaranteed funding. While some may be directly admitted to a laboratory with a project and funding, others will need to pay their own way. Funding is able to be obtained through RA- and TA-ships; however, the onus is on the student to identify these positions.

Credits and Courses
Per University Policy, you will take a minimum of 30 credits, of which, 16 will need to be “graduate school level.” The Program Coordinator will work with you to develop a plan to assure that you will meet, if not surpass, that number.

You should take 8-12cr during the Fall and Spring and work with the Program Coordinator to determine the number of Summer credits to best fit your degree timeline.

Grading is different than in undergraduate studies. You are required to hold a B (3.00) average. You are required to get a B or better in your core courses. Lower grades in your electives are able to be “balanced out” by higher marks. Failure to maintain a 3.00 average will get you placed on Academic Probation.

You will be required to take 30 credits. A comprehensive listing of these two tracks is below:
<table>
<thead>
<tr>
<th>Curricular Masters Track in MET</th>
<th>Research Masters Track in MET</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Completed in One Year</td>
<td>• Completion time varies</td>
</tr>
<tr>
<td>• No required laboratory research component</td>
<td>• Required research component</td>
</tr>
<tr>
<td>• Advised by selected member of MET faculty (could be Director)</td>
<td>• Advised by direct admit or rotation</td>
</tr>
<tr>
<td>• No guaranteed funding</td>
<td>• No guaranteed funding</td>
</tr>
</tbody>
</table>

**Coursework (Fall)**
- MET 625 (3cr) Toxicology I
- MET 631 (3cr) Toxicants in the Environment
- ONC 703 or MET 632-3-4 (3cr) Cancer Tumorigenesis or Ecotoxicology
- OBGYN 955 (2cr) Responsible Conduct of Research
- MET 800 (1cr) Seminar

**Coursework (Spring)**
- CHEM 607 (1cr) Laboratory Safety
- MATH 609 (3cr) Math Methods for Systems Biology
- MET 626 (3cr) Toxicology II
- POPHLTH 789 (3cr) Environmental Health
- MET 800 (1cr) Seminar
- MET 990 (1cr) Thesis Writing

**Coursework (Summer)**
- INTEGSCI 660 (1cr) Mentor Training
- MET 801 (2cr) Scientific Communication
- MET 990 (3cr) Thesis Writing

**TOTAL: 30CR**

1 If courses are not offered, a suitable substitute will be determined by program director.
2 This course was formerly MET 699, offered in summers.
*Note: Some undergrad classes can substitute for requirements. Speak with director upon admission.

<table>
<thead>
<tr>
<th>Coursework (career)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• MET 625 (3cr) Toxicology I</td>
</tr>
<tr>
<td>• MET 626 (3cr) Toxicology II</td>
</tr>
<tr>
<td>• MET 631 (3cr) Toxicants in the Environment</td>
</tr>
<tr>
<td>• ONC 703 or MET 632-3-4 (3cr) Cancer Tumorigenesis or Ecotoxicology</td>
</tr>
<tr>
<td>• MET 801 (2cr) Scientific Communication</td>
</tr>
<tr>
<td>• OBGYN 955 (2cr) Responsible Conduct of Research</td>
</tr>
<tr>
<td>• Elective(s) (4cr)</td>
</tr>
<tr>
<td>• MET 800 (1cr) (every semester) Seminar</td>
</tr>
<tr>
<td>• MET 990 (varies) (every semester) Research</td>
</tr>
</tbody>
</table>

**TOTAL: 30CR (PLUS)**

Milestones & Estimated Timeline:
Listed with descriptions are the five major program milestones.
- **Completion of course work:** All course completed.
- **Annual Thesis Committee Meeting:** All students are required to have an annual committee meeting with their advisors to monitor progress. The committee meeting is held to assure that adequate progress towards degree is being made and the student can receive help, should s/he encounter difficulties. Documentation of scientific progress is submitted to the Director and METC Office.
• **Presentations:** All students will give a scientific presentation to the MET Program. This is typically given in our MET 800 course and is reviewed by a subset of students and faculty with a written critique and survey. A second presentation as a formal defense may be required if the MET 800 seminar is not utilized as such.

• **Summer MET 801 course:** All students attend a summer course where students learn about developing presentations, scientific writing and grant writing. The final project is a grant section and scientific presentation. This 801 Course is typically done in Year 1.

• **Defense (Completion Requirements):** Please see section below called “Completion Requirements.”

**Learning Goals & Outcomes:**
The Graduate School is completing a survey of program learning and assessment goals to clearly define what knowledge a student should attain during their time in a given program. Our learning goals were approved by the Graduate School and our assessments are under review. A copy is in the Appendix and covers the skills, knowledge, and values that are expected of all students upon degree completion.

**Random Requirements & Opportunities:**

**Seminars:**
- Required to present in MET 800 Annually
- Annual Retreats held in summer
- Professional and personal development opportunities led by students (see later chapters)
- Visiting speakers across campus – take advantage of this resource!

**Internships:**
The office will work with our networks and alumni to try to find you an internship, should you be interested in participating in one. (Note: While you may like to do one, your advisor may have different ideas; make sure to check with him/her, either during rotations or before applying. Students in the MS Program, as it is a greatly reduced time to degree, will likely be unable to participate.)

**Publishing:**
While there is no formal requirement to publish, it is generally accepted that students in the Research MS track should have at least one publication before graduating.

**Paperwork:**
Major paperwork required by the office includes:
- **Certification (due Spring 1st year):** General information about your background and interests
- **Committee Form (due Spring 1st year):** Allows office to know faculty and otherwise that make up your research advisory committee, those that will help guide you through graduate school and ultimately determine your completion.
- **IDPs (due Spring 1st year):** Requirement of NIH and the Grad School; only a receipt is needed from AAAS website. More information about IDP’s can be found in Section XV.
- **Progress to Degree form (due annually following committee meeting):** An IDP-like document that allows for student and advisor to have an honest and frank discussion about laboratory progress. Committee members will have opportunity to comment, as well.

**Choosing Advisor, Committee, and Topic**
MS students enter the program unfunded. As such, they have options in advisor. They can have a *de facto* advisor, who will serve as the chair of the MS committee that will hear the Literature Review Defense. The student could seek out a faculty member who is willing to take an MS student into his/her lab, paid or unpaid, and the student can immediately begin in that lab setting. Or, the student can rotate through labs, same as the PHD students, and try to identify a match. (for information on rotations, please see “Choosing Advisor, Committee, and Topic in the PHD section of this document)

It is hoped that, by the end of the first semester, and advisor will be identified.

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During the course of the student’s graduate career, should there be dissatisfaction by one or more parties, a change in laboratory may be prompted. The office will work to identify possible options for the student to conclude his / her MS degree as quickly as possible.

As important as the advisor is the student’s Research Advisory Committee. This group will monitor the scientific growth of a student, provide assistance when there are difficulties, advise when things are going well, and can serve as a “buffer” between the student and an advisor. A student selects his/her committee with the consultation / advice of the advisor and through other relations that they have made on-campus. A committee consists of 3 members (one is the advisor). These rules are consistent with those of the Graduate School. Committees can be modified as needed and typically change based on new research directions. In addition to annual committee meetings, the student will have his/her milestone document (final thesis) reviewed by the committee. We recommend that the final thesis be delivered at least two weeks ahead of that date.

**Completion Requirements**
The two tracks have different completion requirements. The common factors include a presentation and the need for a warrant. Plan on ninety minutes for your presentation / defense. The first hour will be an “open door” session, during which you will present your laboratory research or literature review information. The thirty minute “closed door” session will consist of just you and your committee. You will be questioned about your methods, ideas, and results. You will eventually be dismissed from the room, and the committee will deliberate and make their recommendation on passing.

Your warrant is a document that is signed by your committee to confirm that you have completed all of the MS requirements. You will need a warrant; please let the Program Coordinator know ~1 month out when you are having your defense to request it from the Graduate School.

The completion requirements are summarized in the below table:

<table>
<thead>
<tr>
<th>Completion Requirements, MS Tracks, Molecular &amp; Environmental Toxicology</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Curricular MS</strong></td>
</tr>
<tr>
<td>• Scientific Presentation at MET 800 Seminar</td>
</tr>
<tr>
<td>(can serve as final defense)</td>
</tr>
<tr>
<td>• Warrant signed by 3 faculty members</td>
</tr>
<tr>
<td>• Written Document</td>
</tr>
<tr>
<td>- Document written for 801</td>
</tr>
<tr>
<td>- Review</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

A Research MS document is typically three chapters – an introduction, a description of your research, and a conclusion and future directions. It is entirely possible that the middle chapter is a paper that you have submitted. (please note that you will need to check with the publishing agency about copying your papers and using them in your thesis)

There are formatting guidelines that you will need to follow. These are on the Graduate School website. The minute that you tell Program Coordinator that you are thinking about defending, you will be sent that link. Furthermore, the office has access to copies of previous dissertations, should you like to review those.

Ideally, you will have your near-final draft completed between 2-4 weeks before your defense, so that you can get the electronic version (hard copy by request) to your committee members for review.
It should be noted that not all MS documents need to be deposited; this should be worked out with your advisor, committee, and program director; and the program coordinator should be informed, as that is a “box to check” when requesting a warrant.

It should also be noted that the use of a successful preliminary exam proposal is the preferred method when someone is moving to an MS having already moved to candidacy.

Provided that you are passed, they will sign the warrant, but they may request that you do some final experiments before submitting your dissertation.

After you have made any and all corrections, you will submit your signed warrant to the Graduate School and, if necessary, your thesis document to the Memorial Library. After the review, voila! you have completed all of your requirements – CONGRATULATIONS!

Movement Between PHD and MS:
Per policy decision of the Curricular Committee, movement between the MS-PHD and PHD-MS is closely monitored. For MS-PHD:

If a student is in the Curricular MS and wants to continue for the PHD, the student is required to (re-) apply for the PHD program.

If the student is in the Research MS and wants to continue for the PHD, the student is able to continue without reapplication at the discretion of the Program Director.

It is advised that, if you are considering moving in either direction, to speak with the program director and program coordinator to get a better “lay of the land” and explore available options.

Don’t worry, the Program Coordinator will provide you this information repeatedly as you move forward with your degree.
VII. DOCTORAL MINOR (Taken by students outside of the program)

Are you in the Molecular & Environmental Toxicology Program, either PHD or MS track? Then this section is NOT for you. This section is for doctoral students in other programs completing their minor using Option A.

The name of the minor is "Molecular & Environmental Toxicology."

This program allows students, typically in the biological sciences, to compliment their research by focusing on how xenobiotics affect either human health systems or environmental systems. Students who have recently completed this minor majored in Molecular & Cellular Pharmacology, Forest & Wildlife Ecology, and Civil & Environmental Engineering.

This Option A minor requires 10 credits, per Graduate School policy. The credits are as follows:

At least 7 credits from the following:
MET 625 (Toxicology I, Fall, 3cr)
MET 626 (Toxicology II, Spring, 3cr)
MET 631 (Toxicants in the Environment, Spring, 3cr)
MET 634 (Ecotoxicology, Fall (Odd Years), 1cr)
OBGYN 955 (Responsible Conduct of Research, Fall, 2cr)

At least 3 credits from the following:
MET 606 (Colloquium in Molecular & Environmental Toxicology, Fall & Spring, 1cr)
MET 632-33 (Ecotoxicology, precursors to MET 634, Fall (Odd Years), 1cr each)
POPHTLTH 789 (Environmental Health, Spring, 3cr)
MET 800 (Seminar, Fall & Spring, 1cr)
(other course options available – discuss with program coordinator)

There is an internal form that will need to be filled out by a student who is interested in participating in the minor. This requires proposed coursework, as well as approval from the major professor.

In addition, a minor professor will need to be identified and sit on the student’s committee. This faculty member must be a current member of the Molecular & Environmental Toxicology Program. If the major professor is a current affiliate, a second member will need to be identified.

Further questions should be posed to the Program Coordinator.
VIII.  ENROLLMENT

Enrollment Requirements
The Graduate School has minimum requirements for enrollment each semester. The program recommends that you take the maximum amount of credits each semester in order to ensure that there are no “surprises” with having too few of credits for you when a degree warrant is requested. For both MS and PHD students, minimum Fall / Spring credits are 8. Maximum credit numbers include:

- MS: 12 credits (Fall / Spring); 2 credits (minimum, Summer)
- PHD: 15 credits (Fall / Spring); 2 credits (minimum, Summer)
- Dissertators: 3 credits (any and all semesters; NO EXCEPTIONS!!!)

There may be certain appointments that will allow you to vary those credit amounts. These are listed on the Graduate School website regarding enrollment. This is posted at: grad.wisc.edu/acadpolicy/#EnrollmentRequirements.

Auditing Courses
Graduate School policy on Auditing Courses may be found at grad.wisc.edu/acadpolicy/#auditingcourses. While this is an option, the Program Coordinator STRONGLY recommends not doing this. It becomes complicated . . . very complicated. In other words, just don’t do it.

Continuous Enrollment
Graduate School policy on Continuous Enrollment may be found at grad.wisc.edu/acadpolicy/#continuousenrollmentrequirement. After you have reached dissertator status, if you do not have continuous enrollment, you WILL be charged a lot the following semester. Heed your Program Coordinator’s advice when s/he tells you to enroll.

Transfer of Graduate Work from Other Institutions
The Graduate School has transfer guidelines available here: grad.wisc.edu/acadpolicy/#transferofgraduateworkfromotherinstitutions
Additionally, the Program can determine whether or not courses (credits) can be transferred for use towards degree requirements. These guidelines are highlighted in the Higher Learning Commission updates, found in the Appendix.

If there is a desire to have credits transfer, both you and your advisor should contact the Program Director to discuss the appropriateness of such a transfer and, should it be deemed appropriate, the Program Director will bring the request up to the Graduate Achievement Committee for consideration.
IX. Satisfactory Progress – Academic Expectations

In 2014, the Higher Learning Commission required all graduate programs to codify their baseline requirements for graduate studies. A full listing of this document can be found in the appendix; this chapter provides a summary of what can be found there (minus all the verbiage requirements required). Additionally, a listing of program-required learning goals can be found there. In brief:

- Students will need to complete 30 (MS) or 51 (PHD) credits minimum
- At least half of these credits will need to be designated as “graduate level”
- A minimal number of courses will be allowed to transfer; typically as electives
- Maximum credits in Fall / Spring terms are 12 (MS) or 15 (PHD)
- A PHD student must complete the following core course successfully
  - MET 625 (Toxicology I)
  - MET 626 (Toxicology II)
  - MET 631 (Toxicants in the Environment)
  - MET 634 (Ecotoxicology)
  - MET 801 (Scientific Communication / Prelim A)
  - OBGYN 955 (Responsible Conduct in Research)
  - OBGYN 956 (Advanced Responsible Conduct in Research)  
    (MS core requirements are MET 625, MET 626, MET 631, MET 801, and OBGYN 955, minimum; variance depends on whether the student is in the Curricular or Research-based MS track)
- Successful completion of a core course means finishing with a B or better  
  (discussions about how to remedy lower grades will be had on an ad hoc basis)
- A student must maintain an overall 3.0 (B Average) GPA
- Students must present and attend MET 800 seminar
- Program milestones are listed in the degree-specific chapters previous.

Your program coordinator works with you, your advisor, and the Graduate School to assure that you will be able to accomplish all of these requirements before completing program milestones.

Continuation in the Graduate School is at the discretion of a student's program, the Graduate School, and a student's faculty advisor. A student’s failure to comply with the above mentioned expectations for satisfactory progress may result in disciplinary action or dismissal.

The Graduate School sets minimum standards that all graduate students in the University must meet. Many departments and programs have additional requirements that exceed these Graduate School minimum requirements. The definition of satisfactory progress varies by program. The Graduate School Catalog, https://grad.wisc.edu/graduate-program-resources/, includes the Graduate School’s minimum degree requirements and each program’s minimum criteria for satisfactory progress.

The Graduate School requires that students maintain a minimum graduate GPA of 3.00 in all graduate-level work (300 or above, excluding research, audit, credit/no credit, and pass/fail courses) taken as a graduate student unless probationary admission conditions require higher grades. The Graduate School also considers Incomplete (I) grades to be unsatisfactory if they are not removed during the subsequent semester of enrollment; however, the instructor may impose an earlier deadline.

A student may be placed on probation or suspended from the Graduate School for low grades or for failing to resolve incompletes in a timely fashion. (grad.wisc.edu/acadpolicy/#probation) In special cases the Graduate School permits students who do not meet these minimum standards to continue on probation upon recommendation and support of their advisor. Most programs require satisfactory progress to continue guaranteed funding support. This is especially true if you are on program funding. grad.wisc.edu/acadpolicy/#satisfactoryprogress
X. SATISFACTORY PROGRESS – CONDUCT EXPECTATIONS

Professional Conduct
All students are expected to adhere to the highest standards of professional behavior and ethics. Students should avoid even an appearance of improper behavior or lack of ethical standards while in Graduate School at UW-Madison, in all professional settings, and in their personal lives. Students should conduct themselves according to the standards expected of members of the profession to which the student aspires. Concerns about infractions of Professional Conduct may be effectively handled informally between the instructor/advisor and the student. If a resolution is not achieved, a graduate program representative may be included in the discussion. Separate and apart from a violation of Professional Conduct, a student may face University disciplinary action with regard to the same action. Students are responsible for reading the information here as well as the information published on all the relevant web sites. Lack of knowledge of this information does not excuse any infraction.

1. Professional Ethics: Students shall show respect for a diversity of opinions, perspectives and cultures; accurately represent their work and acknowledge the contributions of others; participate in and commit to related opportunities; aim to gain knowledge and contribute to the knowledge base of others; understand the UW Student Code of Conduct; represent their profession and the program; and strive to incorporate and practice disciplinary ideals in their daily lives. Resumes/CVs must reflect accurate information.

2. Honesty and Integrity: Students shall demonstrate honesty and integrity as shown by challenging themselves in academic pursuits; honesty and ethics in research and IRB applications—including honesty in interpretation of data, commitment to an unbiased interpretation of academic and professional endeavors; and the need to document research activities, protect subject/client confidentiality and HIPAA regulations. Students shall follow-through and pull their weight in group activities and understand where collaboration among students is or is not allowed; not plagiarize others or past work (self-plagiarism), cheat, or purposefully undermine the work of others; and avoid conflicts of interest for the duration of their time in the program. As a professional, honesty and integrity also extends to personal behavior in life outside of the academic setting by realizing that students are representatives of the program, UW-Madison, and the profession as a whole.

3. Interpersonal and Workplace Relationships: Students shall interact with peers, faculty, staff and those they encounter in their professional capacity in a manner that is respectful, considerate, and professional. This includes and is not limited to attending all scheduled meetings, honoring agreed upon work schedules, being on-time and prepared for work/meetings, contributing collaboratively to the team, keeping the lines of communication open, offering prompt response to inquiries, and employing respectful use of available equipment/technology/resources. Chronic or unexplained absences are unprofessional in the workplace and could be grounds for termination or removal of funding. To facilitate the free and open exchange of ideas, any criticism shall be offered in a constructive manner, and the right of others to hold different opinions shall be respected.

4. Commitment to Learning: Students are expected to meet their educational responsibilities at all times. Be actively prepared for class and be ready for questions and answers. Be on time for every class and always show courtesy during class or if you have to leave class early. If possible, students should notify the instructor at least one day in advance of a planned absence. Students who are unable to attend class are responsible for finding out what occurred that day and should not expect instructors to give them individual instruction. Recognizing that the pursuit of knowledge is a continuous process, students shall show commitment to learning by persevering despite adversity and seeking guidance in order to adapt to change. Students shall strive for academic excellence and pursue and incorporate all critique, both positive and negative, in the acquisition of knowledge in order to understand and respect the community in which they work.
5. **Professional Appearance**: Students shall convey a positive, professional appearance in order to represent the program in a dignified manner. Appearance includes a person’s dress, hygiene, and appropriate etiquette/protocols for the environment (including safety protocols and protective clothing in environments that require them).

This graduate program, the Graduate School, and the Division of Student Life all uphold the UW-System policies and procedures in place for academic and non-academic misconduct. In addition, graduate students are held to the same standards of responsible conduct of research as faculty and staff. Furthermore, unprofessional behavior towards clients/subjects, faculty, staff, peers and public are significant issues in the evaluation and promotion of students. In turn, we hold expectations for the highest level of academic integrity and expect professional, ethical, and respectful conduct in all interactions. Students may be disciplined or dismissed from the graduate program for misconduct or disregard for professional conduct expectations regardless of their academic standing in the program. Separate and apart from a violation of Professional Conduct, a student may face University disciplinary action with regard to the same action. Students are responsible for reading the information here as well as the information published on all the relevant web sites. Lack of knowledge of this information does not excuse any infraction.

### Academic Misconduct

Academic misconduct is an act in which a student (UWS 14.03(1)):

1. seeks to claim credit for the work or efforts of another without authorization or citation;
2. uses unauthorized materials or fabricated data in any academic exercise;
3. forges or falsifies academic documents or records;
4. intentionally impedes or damages the academic work of others;
5. engages in conduct aimed at making false representation of a student’s academic performance; or
6. assists other students in any of these acts.

Examples of academic misconduct include but are not limited to:

1. cutting and pasting text from the Web without quotation marks or proper citation;
2. paraphrasing from the Web without crediting the source;
3. using notes or a programmable calculator in an exam when such use is not allowed;
4. using another person’s ideas, words, or research and presenting it as one’s own by not properly crediting the originator;
5. stealing examinations or course materials;
6. changing or creating data in a lab experiment;
7. altering a transcript;
8. signing another person’s name to an attendance sheet;
9. hiding a book knowing that another student needs it to prepare for an assignment;
10. collaboration that is contrary to the stated rules of the course; or
11. tampering with a lab experiment or computer program of another student.

Additional information regarding Academic Misconduct:

Graduate School Policy & Procedure: Misconduct, Academic: [grad.wisc.edu/acadpolicy/#misconductacademic](grad.wisc.edu/acadpolicy/#misconductacademic)

Dean of Students Office: Information for Students: How to Avoid Academic Misconduct? What Happens If I engage in Academic Misconduct? What Should I do If I know a Classmate is Cheating? [students.wisc.edu/doso/students.html](students.wisc.edu/doso/students.html)

Dean of Students Office: Academic Misconduct Flowchart: [students.wisc.edu/doso/misconductflowchart.html](students.wisc.edu/doso/misconductflowchart.html)
Non-Academic Misconduct
The university may discipline a student in non-academic matters in the following situations:

1. for conduct which constitutes a serious danger to the personal safety of a member of the university community or guest;
2. for stalking or harassment;
3. for conduct that seriously damages or destroys university property or attempts to damage or destroy university property, or the property of a member of the university community or guest;
4. for conduct that obstructs or seriously impairs university-run or university-authorized activities, or that interferes with or impedes the ability of a member of the university community, or guest, to participate in university-run or university-authorized activities;
5. for unauthorized possession of university property or property of another member of the university community or guest;
6. for acts which violate the provisions of UWS 18, Conduct on University Lands;
7. for knowingly making a false statement to any university employee or agent on a university-related matter, or for refusing to identify oneself to such employee or agent;
8. for violating a standard of conduct, or other requirement or restriction imposed in connection with disciplinary action.

Examples of non-academic misconduct include but are not limited to:

1. engaging in conduct that is a crime involving danger to property or persons, as defined in UWS 18.06(22)(d);
2. attacking or otherwise physically abusing, threatening to physically injure, or physically intimidating a member of the university community or a guest;
3. attacking or throwing rocks or other dangerous objects at law enforcement personnel, or inciting others to do so;
4. selling or delivering a controlled substance, as defined in 161 Wis. Stats., or possessing a controlled substance with intent to sell or deliver;
5. removing, tampering with, or otherwise rendering useless university equipment or property intended for use in preserving or protecting the safety of members of the university community, such as fire alarms, fire extinguisher, fire exit signs, first aid equipment, or emergency telephones; or obstructing fire escape routes;
6. preventing or blocking physical entry to or exit from a university building, corridor, or room;
7. engaging in shouted interruptions, whistling, or similar means of interfering with a classroom presentation or a university-sponsored speech or program;
8. obstructing a university officer or employee engaged in the lawful performance of duties;
9. obstructing or interfering with a student engaged in attending classes or participating in university-run or university-authorized activities;
10. knowingly disrupting access to university computing resources or misusing university computing resources.

Additional information regarding Non-Academic Misconduct

Graduate School Academic Policies & Procedures: Misconduct, Non-Academic: grad.wisc.edu/acadpolicy/#misconductnonacademic

Dean of Students Office: Non-Academic Misconduct Standards Statement: students.wisc.edu/doso/nonacadmisconduct-statement.html
Research Misconduct
Per NIH Guidelines, students are to have responsible conduct in research training at least twice during their graduate careers. The Molecular & Environmental Toxicology Program, in collaboration with its partners (Endocrinology & Reproductive Physiology, Molecular & Cellular Pharmacology, and Physiology) offers two courses in Responsible Conduct of Research – OBGYN 955 (Responsible Conduct in Research, to be taken in one’s first year) and OBGYN 956 (to be taken when one achieves dissertator status). These courses cover the nine topics of responsible conduct that NIH has emphasized as points of training for all trainees, with 955 providing an elementary overview and 956 providing more in-depth analysis of problems that students will face in their own labs and as they move towards independence. While these courses will provide the foundation for ethical practices, they are no substitute for actually following-through on ethical practices.

Much of graduate education is carried out not in classrooms, but in laboratories and other research venues, often supported by federal or other external funding sources. Indeed, it is often difficult to distinguish between academic misconduct and cases of research misconduct. Graduate students are held to the same standards of responsible conduct of research as faculty and staff. The Graduate School is responsible for investigating allegations of research misconduct. This is often done in consultation with the Division of Student Life as well as with federal and state agencies to monitor, investigate, determine sanctions, and train about the responsible conduct of research. For more information, contact the Associate Vice Chancellor for Research Policy, 333 Bascom Hall, (608) 262-1044.

Please see section on “Grievance Procedures and Misconduct Reporting” for further information on reporting research misconduct of others. Here are links for additional information regarding Research Misconduct and

Responsible Conduct:
Graduate School Policies & Procedures: Responsible Conduct of Research
grad.wisc.edu/acadpolicy/#responsibleconductofresearch

Office of the Vice Chancellor for Research and Graduate Education’s - Office of Research Policy:
Introduction & Guide to Resources on Research Ethics:
research.wisc.edu/respolcomp/resethics/

Office of the Vice Chancellor for Research and Graduate Education’s Office of Research Policy:
Policies, Responsibilities, and Procedures: Reporting Misconduct
kb.wisc.edu/gsadminkb/page.php?id=34486

kb.wisc.edu/gsadminkb/search.php?cat=2907
XI. DISCIPLINARY ACTION & DISMISSAL

This section is meant to provide a general overview of potential consequences that could be faced if Program and/or University academic or conduct expectations are not met. Consequences could range from something as simple as a written reprimand to as extreme as University expulsion.

All students will fall into one of three categories during their academic terms:
- Good standing (progressing according to standards; any funding guarantee remains in place).
- Probation (not progressing according to standards but permitted to enroll; loss of funding guarantee; specific plan with dates and deadlines in place in regard to removal of probationary status).
- Unsatisfactory progress (not progressing according to standards; not permitted to enroll, dismissal, leave of absence or change of advisor or program).

Satisfactory progress can range from maintaining a 3.0 (cumulative) GPA to laboratory work to taking the high road during questionable situations. In some instances, the judgement will be left to the student’s advisor; others, the student’s advisory committee. If necessary, the program director will intervene. Oftentimes, the program director will consult with the student’s PI to identify the most appropriate course of action to benefit the student and program.

The program will work with a student who is experiencing disciplinary difficulties to the best of its ability to assure that no student is left behind. If the situation requires extra coursework or tutoring, the program will assist in identifying the proper resources. In the cases of a sub-B in a program core course, the program director and course coordinator will work to identify the means to make up that grade. In some cases, it will be a repetition of the course, but there may be other options available for all parties and those will be explored on a case-by-case basis. See the Graduate School Academic Policies & Procedures: [grad.wisc.edu/acadpolicy/#repeatingcourses](http://grad.wisc.edu/acadpolicy/#repeatingcourses)

Some punishments are outside the realm of the program; for example, a sub-3.0 GPA will result in the Graduate School placing a student on academic probation. If a semester GPA of 3.0 is not attained during the subsequent semester of full time enrollment (or 12 credits of enrollment if enrolled part-time) the student may be dismissed from the program or allowed to continue for 1 additional semester based on advisor appeal to the Graduate School. A cumulative GPA of 3.0 is required to graduate. See the Graduate School Academic Policies & Procedures: [Probation](http://grad.wisc.edu/acadpolicy/#probation) and [Grade Point Average (GPA) Requirement](http://grad.wisc.edu/acadpolicy/#gparequirement).

Students may be disciplined or dismissed from the graduate program for any type of misconduct (academic, non-academic, professional, or research) or failure to meet program expectations regardless of their academic standing in the program. Separate and apart from a violation of Professional Conduct, a student may face University disciplinary action with regard to the same action. Concerns about infractions of the Professional Conduct may be effectively handled informally between the student and the advisor/faculty member. However, if a resolution is not achieved, the issue may be advanced for further review by the program.

Disciplinary Actions
The Program and University have an array of possible sanctions that they can impose. A comprehensive list includes the following:
- Written reprimand
- Denial of specified privilege(s)
- Imposition of reasonable terms and conditions on continued student status
- Removal of funding
- Probation
- Restitution
- Removal of the student from the course(s) in progress
- Failure to promote
- Withdrawal of an offer of admission
- Placement on Leave of Absence for a determined amount of time
- Suspension from the program for up to one year with the stipulation that remedial activities may be prescribed as a condition of later readmission. Students who meet the readmission condition must apply for readmission and the student will be admitted only on a space available basis. See the Graduate School Academic Policies & Procedures: Readmission to Graduate School: grad.wisc.edu/acadpolicy/#readmission
- Suspension from the program. The suspensions may range from one semester to four years.
- Dismissal from the program
- Denial of a degree

Depending on the type and nature of the misconduct, the Division of Student Life may also have grounds to do one or more of the following:
- Reprimand
- Probation
- Suspension
- Expulsion
- Restitution
- A zero or failing grade on an assignment on an assignment/exam
- A lower grade or failure in the course
- Removal from course
- Enrollment restrictions in a course/program
- Conditions/terms of continuing as a student

**Additional Information**

Links for additional information regarding Academic Misconduct:
grad.wisc.edu/acadpolicy/#misconductacademic
students.wisc.edu/doso/students.html
students.wisc.edu/doso/misconductflowchart.html
students.wisc.edu/doso/docs/uws_chapter_14.pdf

Links for additional information regarding Non-Academic Misconduct:
grad.wisc.edu/acadpolicy/#misconductnonacademic
students.wisc.edu/doso/nonacadmisconduct.html
students.wisc.edu/doso/docs/NewUWS%2017.pdf
students.wisc.edu/doso/docs/NewUWS%2018.pdf

Links for additional information regarding Research Misconduct and Responsible Conduct:
grad.wisc.edu/acadpolicy/#responsibleconductofresearch
kb.wisc.edu/gsadminkb/page.php?id=34486
kb.wisc.edu/gsadminkb/search.php?cat=2907

Ultimately, the program seeks to achieve 100% retention to some degree; however, the program will not have its mission or reputation compromised.
GRIEVANCE PROCEDURES AND REPORTING MISCONDUCT & CRIME

Grievance Procedures
If a student feels unfairly treated or aggrieved by faculty, staff, or another student, the University offers several avenues to resolve the grievance. Students’ concerns about unfair treatment are best handled directly with the person responsible for the objectionable action. If the student is uncomfortable making direct contact with the individual(s) involved, they should contact the advisor or the person in charge of the unit where the action occurred (program or department chair, section chair, lab manager, etc.). Many departments and schools/colleges have established specific procedures for handling such situations; check their web pages and published handbooks for information. If such procedures exist at the local level, these should be investigated first. For more information see the Graduate School Academic Policies & Procedures: Grievances & Appeals: grad.wisc.edu/acadpolicy/#grievancesandappeals

Procedures for proper accounting of student grievances:
1. The student is encouraged to speak first with the person toward whom the grievance is directed to see if a situation can be resolved at this level.
2. Should a satisfactory resolution not be achieved, the student should contact the program’s Grievance Advisor or Director of Graduate Study to discuss the grievance. The Grievance Advisor or Director of Graduate Study will facilitate problem resolution through informal channels and facilitate any complaints or issues of students. The first attempt is to help students informally address the grievance prior to any formal complaint. Students are also encouraged to talk with their faculty advisors regarding concerns or difficulties if necessary. University resources for sexual harassment, discrimination, disability accommodations, and other related concerns can be found on the UW Office of Equity and Diversity website: oed.wisc.edu/index.html.
3. Other campus resources include
   - The Graduate School - grad.wisc.edu
   - McBurney Disability Resource Center - mcburney.wisc.edu
   - Employee Assistance Office - eao.wisc.edu
   - Ombuds Office - ombuds.wisc.edu
   - University Health Services – uhs.wisc.edu
   - UW Office of Equity and Diversity - oed.wisc.edu/index.html
4. If the issue is not resolved to the student’s satisfaction the student can submit the grievance to the Grievance Advisor in writing, within 60 calendar days of the alleged unfair treatment.
5. On receipt of a written complaint, a faculty committee will be convened by the Grievance Advisor to manage the grievance. The program faculty committee will obtain a written response from the person toward whom the complaint is directed. This response will be shared with the person filing the grievance.
6. The faculty committee will determine a decision regarding the grievance. The Grievance Advisor will report on the action taken by the committee in writing to both the student and the party toward whom the complaint was directed within 15 working days from the date the complaint was received.
7. At this point, if either party (the student or the person toward whom the grievance is directed) is unsatisfied with the decision of the faculty committee, the party may file a written appeal. Either party has 10 working days to file a written appeal to the School/College.
8. Documentation of the grievance will be stored for at least 7 years. Significant grievances that set a precedent will be stored indefinitely.

The Graduate School has procedures for students wishing to appeal a grievance decision made at the school/college level. These policies are described in the Graduate School's Academic Policies and Procedures: grad.wisc.edu/acadpolicy/#grievancesandappeals

Reporting Misconduct & Crime
The campus has established policies governing student conduct, academic dishonesty, discrimination, and harassment/abuse as well as specific reporting requirements in certain cases. If you have a
grievance regarding unfair treatment towards yourself, please reference the procedures and resources identified above. If you learn about, observe, or witness misconduct or other wrongdoing you may be required to report that misconduct or abuse. Depending on the situation, it may be appropriate to consult with your advisor, Graduate Program Coordinator, or other campus resources (such as the UW Office of Equity and Diversity, Graduate School, Mc Burney Disability Resource Center, Employee Assistance Office, Ombuds Office, and University Health Services).

Research Misconduct Reporting
The University of Wisconsin-Madison strives to foster the highest scholarly and ethical standards among its students, faculty, and staff. Graduate students and research associates are among the most vulnerable groups when reporting misconduct because their source of financial support and the progress in their careers may be at risk by raising questions of wrongdoing. They are also often the closest witnesses to wrongdoing when it occurs and therefore must be appropriately protected from the consequences of reporting wrongdoing and be informed of their rights. Please find full details at research.wisc.edu/respolcomp/resethics/

Academic Misconduct Reporting
If you know a classmate is cheating on an exam or other academic exercise, notify your professor, teaching assistant or proctor of the exam. As a part of the university community, you are expected to uphold the standards of the university. Also, consider how your classmate's dishonesty may affect the overall grading curve and integrity of the program.

Sexual Assault Reporting
UW-Madison prohibits sexual harassment, sexual assault, dating violence, domestic violence, and stalking. These offenses violate UW-Madison policies and are subject to disciplinary action. Sanctions can range from reprimand to expulsion from UW-Madison. In many cases, these offenses also violate Wisconsin criminal law and could lead to arrest and criminal prosecution.

Students who experience sexual harassment, sexual assault, domestic violence, dating violence, and/or stalking have many options and services available to them on and off campus, including mental health counseling, victim advocacy and access to the criminal and campus disciplinary systems. For a list of confidential support and reporting options, please visit uhs.wisc.edu/assault/sa-resources.shtml.

Faculty, staff, teaching assistants, and others who work directly with students at UW-Madison are required by law to report first-hand knowledge or disclosures of sexual assault to university officials for statistical purposes. In addition, disclosures made to certain university employees, such as academic advisors or university administrators, may be forwarded to the campus Title IX coordinator for a response. For more information, please visit students.wisc.edu/doso/reporting-allegations-of-sexual-assault-datingdomestic-violence-and-stalking/.

Child Abuse Reporting
As a UW-Madison employee (under Wisconsin Executive Order #54), you are required to immediately report child abuse or neglect to Child Protective Services (CPS) or law enforcement if, in the course of employment, the employee observes an incident or threat of child abuse or neglect, or learns of an incident or threat of child abuse or neglect, and the employee has reasonable cause to believe that child abuse or neglect has occurred or will occur. Volunteers working for UW-Madison sponsored programs or activities are also expected to report suspected abuse or neglect. Please find full details at oed.wisc.edu/child-abuse-and-neglect.htm

Reporting and Response to Incidents of Bias/Hate
The University of Wisconsin-Madison values a diverse community where all members are able to participate fully in the Wisconsin Experience. Incidents of Bias/Hate affecting a person or group create a hostile climate and negatively impact the quality of the Wisconsin Experience for community members.
UW-Madison takes such incidents seriously and will investigate and respond to reported or observed incidents of bias/hate. Please find full details at students.wisc.edu/doso/biasreporting.html and students.wisc.edu/rights/what-if-i-witness-or-experience-a-bias-related-incident/
XIII. ACADEMIC EXCEPTION PETITION

Petitions Submitted through the Graduate Achievement Committee
Academic exceptions are considered on an individual case by case basis and should not be considered a precedent. Deviations from normal progress are highly discouraged, but the program recognizes that there are in some cases extenuating academic and personal circumstances.

The student may petition the Director to appeal to the Graduate Achievement Committee (GAC) for a waiver of any required course. The basis for such a waiver shall be evidence of previous work of the same level and content to be determined by the committee in consultation with the faculty member currently responsible for the course concerned. A requirement which is completed by waiver carries no credit toward the Graduate School’s credit requirements nor toward the program’s credit requirement for the degree.

GAC procedures are designed to encourage a student to work closely with an advisor and other faculty, who will be aware of the student’s work and personal circumstances. A student petitioning for a deadline extension or waiver of any type must obtain an endorsement from his or her advisor, and/or members of the graduate committee. Advisors may petition the GAC on behalf of their advisees. The Committee may ask the advisor for further information beyond that written on the petition.

Students may ask the Director of Graduate Studies or other faculty members to advise them, to speak to GAC on their behalf, or to endorse their petitions. Students may consult with the chair of the GAC or with the graduate advisor about procedures and standards, but GAC cannot substitute for an advising relationship.
XIV. FUNDING AND FINANCIAL INFORMATION

Overview: Funding Landscape
We assume that all students entering the program will need financial assistance and guarantee funding for all PhD students who enter the program, whether they are foreign or domestic. Effective 9/1/2018, the program recommends that students be paid a $28,000 annual stipend. Through the School of Medicine & Public Health’s Deans Office, funding is provided to support new student rotations for (up to) five incoming students each year during their first semester.

Following the rotations, when a lab is identified, the lab assumes responsibility for the student’s funding for the duration of their time in graduate school. This approach helps ensure a stronger match between student and mentor. Once joining a lab, the majority of students are funded by Research Assistantships (RA’s). These appointments are covered by the mentor’s research grants, which provides a stipend and tuition remission. A mechanism available for our URM students is for the PI to identify an R01 supplement, allowing for the PI to fund his/her student in addition to any other personnel that are on the grant.

Students who study in a molecular / human health toxicology lab are eligible for the METC-NIEHS T32 Training Grant. This grant covers stipend, tuition, and seg fees for students. Trainers nominate students and are awarded slot(s) based on the decisions of the Training Grant Committee. Students are typically funded for 1-3 years on this mechanism. Because of our size, we have been able to fund a majority of our domestic students in molecular labs. This mechanism is crucial to our continued success.

Beginning in Fall 2017, the Program was able to identify funds to provide a 25% appointment for teaching assistantships for students serving in the MET core courses. In addition to this mechanism, students can also serve as TA’s. Popular programs include Pharmacy, Zoology / Biocore, and Forest & Wildlife Ecology courses.

In addition to these means, the program has developed a strong connection with the SciMed-GRS Program. The SciMed-GRS group provides URM students with two years of funding (the student’s first year and then one after s/he moves to candidacy), as well as developing a community through speakers, support groups, and other activities.

Students are also encouraged to find their own funding by applying for fellowships. Based on their research, students may be eligible for individual fellowships through NIH, NSF, AHA, DOD, or a host of other organizations. These funded, competitive fellowships are excellent for students to earn as they move towards independence. Our students have had some successes in obtaining these grants in recent years.

Students should be aware that fellowships and awards from external sources will each have unique terms and conditions that you should take time to understand. Questions on external fellowships can be directed to the Office of Diversity, Inclusion and Funding. grad.wisc.edu/studentfunding/types

The following are some sources of information on external funding:
2. The Grants Information Collection (GIC) on the 2nd Floor of Memorial Library grants.library.wisc.edu/
   The GIC is a great collection of print and on-line resources to help students find external fellowships and scholarships. You can learn how to set up a personalized profile on several on-line funding databases, and get regular notices of relevant funding opportunities. PLEASE REMEMBER: the timetable for identifying, applying for and receiving such external funding is generally quite long; plan on 9-12 months between the time you start your search and the time you may receive funding.
Once you find a fellowship, scholarship, or award to which you want to apply, consider contacting the Writing Center (writing.wisc.edu/Individual/index.html). The Writing Center staff can provide valuable advice on crafting your application.

Should there be funding difficulties, METC will do what it can to help identify funding sources so that a student does not have to go without a paycheck.

Currently, we do not provide funding for MS students. However, through their own means, these students are able to find funding by working directly with faculty mentors or participating in other assistantships.

**Bottom line: If we take you in as a PhD student, we will take care of you.**

**Responsibilities**
Responsibilities vary from lab-to-lab. It is important to have a frank discussion with your lab mentor to assure that, when appointed as an RA, you are aware of his/her expectations when joining.

For the required preceptor roles, the program is confident that, following the set-up of funding, there will be a more uniform understanding of expectations and requirements. These will be delivered to the course coordinators and students will be able to contact the office if these are not being honored.

**TA and PA Collective Bargaining**
The contract between the state and the Teaching Assistant's Association covering TAs and PAs (oser.state.wi.us/docview.asp?docid=7113) is no longer in force; however, the university is continuing to use the terms of the contract until final university policies are adopted. Since the TAA no longer represents TAs and PAs, sections of the contract referring to “union” rights and responsibilities are no longer in effect. TAs and PAs can find policies in the contract related to: grievance procedures; appointments; orientation, training, and evaluation; non-discrimination; termination; health and safety; and benefits, including sick leave, vacation, and leave of absence.

**Stipend Levels and Paychecks**
Stipend rates for graduate assistantships are set by the University. Current rates for TAs, PAs, RAs and LSAs can be found on the website for the Office of Human Resources: [https://www.ohr.wisc.edu/polproced/UTG/StuAsstAppptT.html](https://www.ohr.wisc.edu/polproced/UTG/StuAsstAppptT.html). The current RA rate for MET is $28,000. The rate for our TA appointments will be (9 month) $18,350.

Graduate assistants are paid on a monthly basis and stipends are usually deposited directly into student’s bank accounts. You can authorize direct deposit by filling out the Authorization for Direct Deposit of Payroll form ([uwservice.wisc.edu/docs/forms/pay-direct-deposit.pdf](http://uwservice.wisc.edu/docs/forms/pay-direct-deposit.pdf)) and returning it to the Benefits team during Orientation.

**Tuition Remission and Payment of Segregated Fees**
TAs, PAs, RA, and Lecturers (Students Assistants) with appointments of 33.3% or higher (approximately 13 hrs/week) receive remission of their full tuition (in-and out-of-state, as applicable). Students with these appointments are still responsible for paying segregated fees.

**Health Insurance Benefits**
TAs, PAs, RA, and Lecturers (Student Assistants) with appointments of 33.3% or higher (approximately 13 hrs/week) for at least the length of a semester are eligible to enroll in a health insurance program. Information about health insurance options can be found at [ohr.wisc.edu/benefits/new-emp/grad.aspx](http://ohr.wisc.edu/benefits/new-emp/grad.aspx). Current monthly premiums can be found at [https://www.wisconsin.edu/ohrwd/benefits/premiums/](https://www.wisconsin.edu/ohrwd/benefits/premiums/). Questions about health insurance can be directed to Coreen Marklein, cmklein@wisc.edu; 608/265-4157.
Maximum Appointment Levels
The Graduate School sets the maximum levels of graduate assistantship appointments. International students should be especially aware of maximum levels of employment. For more information on these policies, please visit https://grad.wisc.edu/acadpolicy/#maximumlevelsofappointments.

Enrollment Requirements for Graduate Assistants
Students with graduate assistantships must be enrolled appropriately. Detailed information about enrollment requirements can be found in the Graduate School’s academic policies at https://grad.wisc.edu/acadpolicy/#enrollmentrequirements.

Fellowships
There are many different kinds of fellowships on campus. Some are awarded by the program, some are awarded by the school/college, and still others are awarded by the Graduate School. In addition, a number of students have applied for and won fellowships from federal agencies, professional organizations, and private foundations. The terms and conditions of fellowships across campus vary widely. If you have a fellowship, make sure you understand the obligations and benefits of that fellowship, including stipend, health insurance eligibility, eligibility for tuition remission, pay schedule, etc.

Graduate School Fellowships
The Graduate School administers a number of different fellowships on campus, including: the University Fellowships, Chancellor’s Fellowships, Mellon-Wisconsin Fellowships, the Dickie Fellowships, and a variety of external fellowships (https://kb.wisc.edu/gsadminkb/page.php?id=34761.) If you have questions about these fellowships, please contact the Office of Fellowships and Funding Resources, http://grad.wisc.edu/studentfunding/currentstudents.

Fellows with Concurrent Appointments
Students with fellowships pay rolled through the university may hold concurrent graduate assistantships and/or student hourly appointments up to a total maximum combined annual stipend of $28,000 (2018-2019 maximum). Concurrent appointment policies will vary across external agencies, so please be sure to review the terms and conditions for your award. If you have any questions about concurrent work along with your fellowship, please feel free to contact the Office of Fellowships and Funding Resources.

Funding for Conference/Research Travel
Please see Chapter XIV for information regarding Conference / Research Travel.

Loans
The Office of Student Financial Aid (OSFA) (finaid.wisc.edu/graduate-students.htm) assists graduate students whose personal and family resources are not adequate to cover the expenses involved in attending the University of Wisconsin-Madison. The office also provides counseling to help students manage their money effectively, information on other potential sources of financial assistance (such as employment), debt management counseling, and small short-term loans for emergency situations.

Our goal, however, as a program, is that you will never need to make use of this office.
XV. PROFESSIONAL DEVELOPMENT AND CAREER PLANNING

Both the University and the program promote professional activities to help students enhance their skills, refine other talents, and generally contribute towards professional self-improvement. Beyond the mentorship of the PI’s, students are encouraged to attend conferences, network when attending conferences, as well as present research, attend lectures, and participate in workshops.

Starting your very first year on campus, it is expected that you will take full advantage of the career and professional development resources that best fit your needs and support your goals. Since our alumni thrive not only in academia but also in industry, corporate, government, and non-profit arenas, we strive to be in-tune, holistic, and innovative our approach to meeting the diverse professional development needs of our students. By actively participating in these professional development opportunities, you will build the skills needed to succeed academically at UW-Madison and to thrive professionally in your chosen career.

The Graduate School has begun holding workshops and other tutorials on professional development, so students have access opportunities on-campus. Our program website has a page devoted to professional development, which we hope will gain more momentum and attention. Students should pay attention to these opportunities to set themselves apart from their peers as they move forward towards their post-graduate careers.

Individual Development Plans (IDP): Individual Development Plans are to help the user identify what future career possibilities, utilizing interests and knowledge-base and then providing suggestions about how to fill in gaps in knowledge to help a student better succeed in a given career.

All students, following the completion of their rotations, are required to fill out the IDP created by American Association for the Advancement of Science (AAAS). This will provide an electronic profile where students can set goal and monitor their progress in various areas. Additionally, it provides a “receipt” output for record to be kept in the MET Office.

Additionally, with each annual Committee Meeting, the Progress to Degree form enables students to track progress, do a self-evaluation, and allow the PI to provide insights and guidance. This is so both the student and the office can monitor progress and help assure stable, steady progress towards degree completion. We are confident that these means of evaluation, exploration, and engagement are what will assist in helping a student set his/herself apart from others seeking a given position.

Fellowship and/or Grant Writing:
The program offers some information on grant writing. The required Responsible Conduct in Research (955) course has a lecture that is devoted to fellowship and grant writing. This talks students through various techniques, as well as giving an overview for the grant writing and receipt process. There are also other scientific writing courses available on-campus that are highly recommended. Further training occurs in the required MET 801 course, which has been described prior and serves as a springboard for their Prelim Exam B document, which is written-up for his/her committee like a research grant. MET encourages students to use this document, following comments from the student’s committee, to be used to obtain extramural funding. This experience is invaluable as they begin to branch away and conduct their own future research as postdoctoral fellows and, eventually, faculty members.

Responsible Conduct:
Our collaborative RCR course (955) is described earlier in the document. It is required of 1st years and a syllabus of topics and participants from last year has been included in the Appendix. In addition, there is an advanced RCR course (956) that students are required to take following their achievement of dissertator status. This meets upcoming NIH guidelines for continued, stage-appropriate instruction on
responsible conduct in a laboratory setting.

There are other opportunities for students to attend research ethics discussion, including through the Graduate School, departmental lectures, and through the Professional Development website.

**Local Resources for Professional Development and Career Planning**

Many of the professional societies that our students join and participate in provide professional development opportunities at regional and national conferences. In Chapter XVI: Opportunities for Student Involvement is a listing of these groups, which can be explored to see which best fit your needs as a developing scientist.

In addition to the formal MET 699 writing course that is offered, there are two other student-run developmental activities that are available through METC:

**TA-Training:** Developed by one of our alumna as her DELTA Project, this half-day tutorial has students who are going to serve as preceptors for the upcoming academic year learn tricks, tips, and otherwise from the students who served as preceptors the year before. This course has ways to keep students engaged, teaches students how to interact with the various faculty personalities involved with the courses, and highlights what the overall expectations are. This is a valuable tool that is an unwritten requirement for all program students.

**Personal & Professional Development:** This series, sponsored by the Student Liaison Committee (SLC, further information in upcoming chapter), brings in lecturers to talk on an array of topics. From developing a poster or CV to relaxation techniques and financial planning, no topic is off-limits. Leadership of this series lasts for one year and is a wonderful point to add to one’s resume.

**Professional Meetings:**

An important part of the professional development of graduate student is the participation in professional meetings and conferences. There are opportunities and funding available for graduate students to present at professional meetings. These opportunities are optimal for student development and (future) career advancement. The most likely source for a student to find funding is through their research mentor’s grant, which should have travel funds available. Also, the Graduate School has funds available for the Student Research Grants Competition (formerly “Vilas Travel and Research Grants”), which provides students with up to $1600 for their travel. Many conferences offer travel awards for students who are presenting abstracts or who demonstrate a need. Students are encouraged to look for those. Students on our T32 Training Grant have access to $300/year for travel. The program itself does not have significant funding to support travel; however, we have assisted on occasion. Consult your advisor about the appropriate venues for you to attend.

Before you travel, check to figure who will be helping with your reimbursement. Will you be doing it on your own? Will an administrator in your advisor’s department submit the e-work? Will it be done through METC? This is an important aspect to check, especially as different departments (administrators) have different expectations of what is(not) required before and after.

There are many and ever-changing policies, some of which can be found at [http://www.bussvc.wisc.edu/acct/policy/ppindex.html](http://www.bussvc.wisc.edu/acct/policy/ppindex.html). As of this writing, the quick basics are:

- Use FoxWorld Travel / Concur to book your flight
- DON’T use expedia / Travelocity / anything of that nature for flights, hotels, et cetera
- If driving and using your car, you need to do a sort of safety training to be authorized.
- Keep your receipts

The word to the wise on this –

*You don’t have to follow any of these pieces of advice . . . you just won’t be reimbursed.*
Campus-wide Resources for Professional Development
In addition to opportunities at the local level, the Graduate School Office of Professional Development provides direct programming in the areas of career development and skill building, and also serves as a clearing house for professional development resources across campus. The best way to stay informed is to watch for the weekly newsletter from OPD, GradConnections Weekly, and to visit the webpage grad.wisc.edu/pd/events for an up-to-date list of events. Typical topics covered include IDP’s; Planning for academic success; Dissertation writing support; Communication (writing, speaking, otherwise) skills; Career exploration; and Research ethics.

In addition to those offered by the Graduate School, there are a variety of offices that offer trainings and student professional support on campus. Just a few are listed below. If you think that there is another training that would be helpful, as the Program Coordinator; it may be out there and s/he’ll know how to find it!

- **Writing Center** [writing.wisc.edu/](http://writing.wisc.edu/)
The UW-Writing Center helps graduate students in all disciplines become more effective, more confident writers. They provide writing assistance either by appointment or via walk-in hours.
- **Delta Program** [delta.wisc.edu](http://delta.wisc.edu)
The Delta Program promotes the development of a future national faculty that is committed to implementing and advancing effective teaching practices for diverse student audiences as part of their professional careers. This can be a big time commitment, but students find that it can be worth it!
- **Wisconsin Entrepreneurial Bootcamp** [bus.wisc.edu/degrees-programs/non-business-majors/wisconsin-entrepreneurial-bootcamp](http://bus.wisc.edu/degrees-programs/non-business-majors/wisconsin-entrepreneurial-bootcamp)
Offered through the Business School, this one-week intensive training in technology entrepreneurship for graduate students focuses on case analyses, lectures, expert panels, and exercises in market assessment and other events.

Individual Development Plans
The Graduate School webpage [grad.wisc.edu/pd/idp](http://grad.wisc.edu/pd/idp) offers a collection of IDP resources to support graduate students, postdoctoral researchers, mentors, PIs, grants administrators, and graduate program coordinators. The university recommends the use of IDPs for all postdoctoral researchers and graduate students, and requires their use for all postdoctoral researchers and graduate students supported by National Institutes of Health (NIH) funding.

As you begin your Graduate School career, an Individual Development Plan (IDP) is an essential tool to help you:

1) Assess your current skills and strengths  
2) Make a plan for developing skills that will help you meet your academic and professional goals  
3) Communicate with your advisors and mentors about your evolving goals and related skills.

The IDP you create is a document you will want to revisit again and again, to update and refine as your goals change and/or come into focus, and to record your progress and accomplishments. It also serves to start – and maintain – the conversation with your faculty advisor about your career goals and professional development needs.

The onus to engage in the IDP process is on you, although your mentor, PI, or others may encourage and support you in doing so. The IDP itself remains private to you, and you choose which parts to share with which mentors. Through the IDP process, you may decide to identify various mentors to whom you can go for expertise and advice.
MET strongly recommends that students complete the IDP through AAAS by the end of their first year, submitting the receipt to the Program Coordinator. In addition to this, all students will do an IDP each year before committee meetings, using the Progress to Degree form developed by the Office. This will allow the student to have a frank conversation with his/her advisor and committee to determine the true status of their progress.

We recommend using one of the following two IDP tools, or a more specific IDP tool that your program or training grant has developed. Each tool will include a self-assessment of skills, interests, and values; goal-setting guidelines; and reference to skill building and career exploration resources.

The Progress to Degree form can be found in the Appendix.
XVI. OPPORTUNITIES FOR STUDENT INVOLVEMENT

As a graduate student at UW-Madison, you have a multitude of opportunities to become involved on campus and in your academic discipline. This involvement enhances your academic, professional, and social development.

Our program has an active student leadership group, the Student Liaison Committee (SLC). This group, comprised of anywhere between five and seven students, serves as the “eyes and ears” of the program to the administration, as well as a voice to the director. Roles in this group include the President, New Student Reps (whom are heavily relied upon during recruitment and orientation), Personal and Professional Development Officer(s) (who invite speakers for small-group tutorials on a myriad of topics), and Social Chair. Elections are typically held over the summer. This group plays a crucial role to the program and for the administration and serves as an involved, yet low-key way to boost one’s CV.

Outside of Campus Groups

Society of Toxicology (SOT)
One of the major groups that the program is involved with is the Society of Toxicology, which is a professional and scholarly organization of scientists from academic institutions, government, and industry representing the great variety of scientists who practice toxicology in the US and abroad. The Society’s mission is to create a safer and healthier world by advancing the science and increasing the impact of toxicology. At both the national levels and the regional (Midwest Regional Chapter (MRC)) levels are opportunities for students to become involved in a variety of committees. Again, many of these committees require a minimal amount of effort, but are well worth the opportunity to increase one’s interest in a specialty session, network, or otherwise improve one’s resume. We have alumni throughout the years that are heavily involved in this society and the “pay it forward” mentality runs deep. It is an asset of a group to be involved with.

Society of Environmental Toxicology and Chemistry (SETAC)
A group that is a little more environment-first is SETAC. SETAC is a non-profit, worldwide professional society comprised of individuals and institutions engaged in the study, analysis, and solution of environmental problems; the management and regulation of natural resources; environmental education; and research & development. The mission is to support the development of principles and practices for protection, enhancement, and management of sustainable environmental quality and ecosystem integrity. This group has a “students-first” mentality, with annual student planned, student participating meetings. Seeking involvement, this group provides the opportunity to present and gain other valuable professional development skills that may get lost in other, larger societies.

Other Societies
Other groups that students tend to join are determined by the mentor of the lab they ultimately join. Common groups include: American Chemical Society (ACS); Society of Investigative Dermatology; American Urological Association; and the American Cancer Society.

Within Campus Groups

Student Representation in Governance
All of these student groups play an essential role in how the University works for students. While many of our students do not become involved with these groups, there is always the opportunity to join them, should the passion and interest be there.

Associated Students of Madison (ASM) - The Associated Students of Madison (ASM) is the campus-wide student governance organization at UW–Madison. Graduate and undergraduate
representatives are elected to the 33-member ASM Student Council based on their respective college or school. The student council has regular biweekly meetings open to all students. Learn more here: asm.wisc.edu/

**Teaching Assistants’ Association (TAA)** - The Teaching Assistants’ Association (AFT Local 3220) is the labor union for TAs and PAs at UW-Madison. As a result of decades of organizing and by working together as a union, graduate students at UW-Madison have achieved good health benefits, tuition remission, and many other gains. The TAA is a democratic union run by the members. All key policy decisions are made at monthly membership meetings. Learn more here: taa-madison.org/

**Registered Student Organizations**
There are more than 750 student organizations on campus. The best way to seek out current organizations is to visit the **Center for Leadership and Involvement** (CFLI) website, cfli.wisc.edu, and visit the Registered Student Organization directory. This list will not include unregistered student organizations, and you may find that there are groups in your department that you would like to get involved with as well. If you are interested in officially registering an organization in which you are involved, you must register at cfli.wisc.edu. Once registered through CFLI, your organization is eligible for funding from ASM, and your group can reserve rooms in the Union and access other resources.

**Outreach and Community Connections**
The Wisconsin Idea is the principle that education should influence and improve people’s lives beyond the university classroom. For more than 100 years, this idea has guided the university’s work. Learn how you can get involved at wisc.edu/public-service/.

The Morgridge Center for Public Service connects campus with community through service, active civic engagement, community-based learning and research, and more. Explore opportunities at morgridge.wisc.edu/.

**Engagement with the Graduate School**
The Graduate School facilitates opportunities by which graduate students can interact with and provide feedback to leadership on important graduate education topics. Email graduateschooldean@grad.wisc.edu to find out more.
XVII. MISCELLANEOUS INFORMATION FOR NEW STUDENTS

Activate your NetID
You will need your NetID and password to access the My UW-Madison portal at my.wisc.edu. To activate your NetID click on the ACTIVATE NETID button from the My UW Madison login screen. Enter your 10 digit student campus ID number and birthdate. The NetID you create and password you enter are keys to your access to the MyUW portal, so make a record of it and keep it private. If you are unsure about your NetID and password, contact the DoIT Help Desk at 608-264-4357.

Get your UW Photo ID Card (Wiscard)
Get your UW ID card - Wiscard - photo taken at the Wiscard Office (wiscard.wisc.edu/contact.html) in Union South, room 149, M-F 8:30 am - 5:00 pm. You must be enrolled for 24 hours and have valid identification, such as a valid driver's license, passport, or state ID to get your photo ID. If you do not do this on your own upon arrival to Madison, current program students have set-aside time to go to Union South during Orientation Week.

Enroll in classes
Students will be contacted in advance of the semester on what enrollment requirements will be needed. All PhD students are allowed 8-15cr and MS students are allowed 8-12. As a general rule, the program recommends that students “max out” on their credits. It will not cost anything more, in terms of student fees or otherwise.

Typically, the first year / first semester classes include:
MET 625 (Toxicology I, 3cr)
MET 632-3-4 (Ecotoxicology, 3cr combined, ODD YEARS ONLY)
MET 800 (Seminar, 1cr)
OBGYN 955 (Responsible Conduct of Research, 2cr)
MET 990 (Research, variable credits, under Chris Bradfield – 012)

Further core coursework includes:
MET 626 (Toxicology II, 3cr)
MET 631 (Toxicants in the Environment, 3cr)
MET 801 (Special Topics / Prelim A)
OBGYN 956 (Advanced Responsible Conduct of Research, 1cr (when dissertator))

Elective credits are decided upon in-consultation between the student and his/her advisor and advisory committee. Suggestions for courses may be directed to the Program Coordinator.

Pick up your free Madison Metro bus pass
As a UW student, you can pick up a bus pass at no charge from the Memorial Union at the beginning of the fall and spring semesters. Visit the ASM Web site for more information on Madison Metro bus services: asm.wisc.edu/asm-bus-pass.html. Be sure to bring your UW Photo ID card. Again, you must be enrolled for 24 hours. Time will be set-aside to travel to the Memorial Union during Orientation Week.

Attend the New Graduate Student Welcome, hosted by the Graduate School
This event provides a great opportunity to mingle with Graduate School deans and staff, hear from a panel of current students about grad student life, learn about the many campus and community resources available to you, and meet other new graduate students from across campus. This is highly recommended, both by previous first-year students and by the administrators of the program. To learn more and register here: grad.wisc.edu/newstudents/ngsw/
The Guide to Graduate Student Life

The Guide is published annually by the Graduate School and contains a wealth of essential information for new graduate student. It covers information about the city of Madison, student services, finances, employment, housing, transportation, shopping, local services, recreation, and healthy living. Check it out at grad.wisc.edu/newstudents/.

Attend Program Orientation Events

The program hosts orientation activities the week before the first day of classes; typically, this is the last full week in August. We recommend that you move to Madison at least a week in advance, so that you are able to acclimate yourself to the area and get a handle on where things are (and not just around campus – groceries, learning the bus routes, et cetera).

The first morning’s orientation activities are done with three other programs (Endocrinology & Reproductive Physiology, Molecular & Cellular Pharmacology, and Physiology). Information provided at this session include a welcome, information about payroll and benefits, and an overview of campus library services. Additionally, payroll specialists will be on-hand to complete I-9 checks.

Starting that afternoon and spaced throughout the rest of the week, further talks will be done, including the director describing program requirements and expectations, faculty describing their research to recruit rotators, and current students providing information and peer mentors to help the transition to graduate school. Additionally, current students will provide opportunities for socializing.

Per UW-Policy, program administrators are not able to provide advice for payroll and/or benefits. The University’s Office of Human Resources holds both group and drop/walk-in hours for incoming graduate students throughout August and September to answer questions and inform students as to how to fill out their benefit forms. The office strongly recommends that students attend at least one of these events.

Schedules of these events will be sent by the program over the summer.

Program/Department Resources for Students

Because we are an interdepartmental program, we do not have the same resources as a department. We would encourage you, following your laboratory selection, to talk with the departmental administrator of your advisor to learn about what resources they provide.

Below is a listing of the resources that we do have:

- Student lounge / reading room / library, room 1017 McArdle Building
- Access to black & white scanner and copier (limited), room 1013 McArdle Building
- Conference rooms with priority reservation; 1006 McArdle Building; 11th Floor, McArdle Building
- Projector equipment and computer, limited to use for presentations
- Travel funds (limited)
XVIII. ADDITIONAL INFORMATION FOR INTERNATIONAL STUDENTS

International Student Services (ISS)
International Student Services (ISS) is your main resource on campus and has advisors who can assist you with visa, social and employment issues. Visit their website for more information at iss.wisc.edu or to schedule an appointment.

Student Visas
Graduate Admissions issues the federal I-20 form for initial F-1 Visa procurement. Initial J-1 Visa document (DS-2019) is handled by International Student Services (ISS). The Graduate Admissions office sometimes must collect financial information for the DS-2019, which is then forwarded to ISS. After the student is enrolled, all Visa matters are handled by ISS.

Documents required of new international students
Many students are admitted with a condition that they submit their final academic documents after arrival on campus. You will be asked by the Graduate Program Coordinator to submit those to him / her as soon as the degree is posted. The documents will be taken to the Graduate School to complete your enrollment. The admissions requirements page grad.wisc.edu/admissions/requirements/ has a drop down menu under “degrees” which lists the documents required for each country.

Students with ESL requirements
Any student who was admitted with a TOEFL score below 92, or an IELTS score below 6.5 will be required to take the English as a Second Language Assessment Test (ESLAT) english.wisc.edu/esl/eslat-exam.html and any required English course during their first semester.

Funding for International Students
International students are eligible for Teaching, Project, and Research Assistantships on campus as well as university fellowships through the Graduate School. They may not be employed more than 20 hours per week on campus while enrolled full-time.

New international students with assistantships should work with International Students Services to obtain a social security number (iss.wisc.edu/employment/social-security). New students with fellowships and no other appointment types are not considered employees and are not eligible for social security numbers. These students should work with ISS to obtain an International Taxpayer Identification Number (ITIN, iss.wisc.edu/employment/itin).
XIX.  APPENDIX

In the pages that follow are the appendix documents that were listed throughout the text; specifically:

Learning Goals & Assessments
Progress to Degree
Research Advisory Committee
Thoughts when Considering Rotations
RCR Course Syllabi
    OBGYN 955: Responsible Conduct of Research (taken First Year / First Semester)
    OBGYN 956: Advanced Responsible Conduct of Research (Taken Spring / Dissertator Year)
Higher Learning Commission (HLC) Related Policies:
Program Update Template

The template is designed to allow programs to include all degree levels of a single program on one template. However, multiple templates can be used for a single program, if preferred. In many cases, graduate programs can set more rigorous requirements than the Graduate School’s baseline requirements. Please reference the GFEC-Approved Policy Vote Items and FAQ’s for full policy details. If your program seeks to require the same requirements as dictated by Graduate School policy, please confirm by inserting the appropriate details. Otherwise, programs are free to state more rigorous requirements.

Program (Major) Name: Molecular & Environmental Toxicology

1. Minimum Graduate Residence Credit Requirement:
The Minimum Graduate Residence Credit Requirement requires at least 16 credits for master’s degrees, 24 credits for MFA/specialist certificates, and 32 credits for doctorate degrees. Programs may require a higher Graduate Residence Credit minimum. If you have different credit requirements for different tracks of students at the same degree level, please note that accordingly.

<table>
<thead>
<tr>
<th>Name of degree level and any applicable options/tracks</th>
<th>Residence Credit Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.S. – non-thesis</td>
<td>16 credits</td>
</tr>
<tr>
<td>M.S. – Research/Thesis track</td>
<td>16 credits</td>
</tr>
<tr>
<td>Ph.D.</td>
<td>32 credits</td>
</tr>
</tbody>
</table>

2. Minimum Graduate Degree Credit Requirement:
The Minimum Graduate Degree Credit Requirement requires at least 30 credits for master’s degrees, 42 credits for MFA/specialist certificates, and 51 credits for doctorate degrees (may include master’s, minor, and dissertator credits). Programs may require a higher Graduate Degree Credit minimum. If you have different credit requirements for different tracks of students at the same degree level, please note that accordingly.

<table>
<thead>
<tr>
<th>Name of degree level and any applicable options/tracks</th>
<th>Degree Credit Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.S. – non-thesis</td>
<td>30 credits</td>
</tr>
<tr>
<td>M.S. – Research/Thesis track</td>
<td>30 credits</td>
</tr>
<tr>
<td>Ph.D.</td>
<td>51 credits</td>
</tr>
</tbody>
</table>
3. **Minimum Graduate Course Work (50%) Requirement:**

The Minimum Graduate Course Work Requirement states that at least 50% of credits applied toward the program’s graduate degree credit requirement must be with courses designed for graduate work. Graduate course work can include UW-Madison courses (including but not limited to online, thesis/research, independent study, and practicum/internship credits) that satisfy one of the following guidelines:

- numbered 700 and above;
- numbered 300-699 that are specifically designed for graduate students in a graduate program;
- numbered 300-699 that assess graduate students separately from undergraduate students; or
- numbered 300-699 that have a graduate student enrollment >50% in any given semester.

Programs may be more restrictive with how they define graduate-level work (than the above parameters). Please provide the program’s policy around this requirement. If you have different requirements for different tracks of students at the same degree level, please note that accordingly.

<table>
<thead>
<tr>
<th>Name of degree level and any applicable options/tracks</th>
<th>Graduate Course Work Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>M.S. – requirements are the same for all options/tracks</strong></td>
<td>At least half (16 credits of the required 30) must come courses that are either:</td>
</tr>
<tr>
<td></td>
<td>• Numbered 700 or above</td>
</tr>
<tr>
<td></td>
<td>o 990 Research Credits with advisor</td>
</tr>
<tr>
<td></td>
<td>o Research Ethics 955 or 812</td>
</tr>
<tr>
<td></td>
<td>o Electives</td>
</tr>
<tr>
<td></td>
<td>• MET 699 Directed Study (generally summer)</td>
</tr>
<tr>
<td></td>
<td>• Be graduate-level coursework 300-699 that meets university guidelines as listed above.</td>
</tr>
<tr>
<td></td>
<td>o Tox 631 (&gt;50% Grad Students)</td>
</tr>
<tr>
<td></td>
<td>o Tox 634 (&gt;50% Grad Students)</td>
</tr>
<tr>
<td></td>
<td>o Revised Toxicology Courses (Tox 625 &amp; Tox 626 are scheduled to be revamped in the next 1-2yrs and will meet guidelines)</td>
</tr>
<tr>
<td></td>
<td>o Electives reviewed by University guidelines</td>
</tr>
<tr>
<td></td>
<td>• Courses that are not part of the required coursework will not be included in the final calculation.</td>
</tr>
<tr>
<td></td>
<td>o Physical Education Courses</td>
</tr>
<tr>
<td></td>
<td>o Language Courses</td>
</tr>
</tbody>
</table>

| **PHD** | At least half (26 credits of the required 51) must come from courses that are either: |
| | • Numbered 700 or above |
| |   o 990 Research Credits with advisor |
| |   o Research Ethics 955 or 812 |
| |   o Electives |
| | • MET 699 Directed Study (generally summer) |
| | • Be graduate-level coursework 300-699 that meets university guidelines as listed above. |
| |   o Tox 631 (>50% Grad Students) |
| |   o Tox 634 (>50% Grad Students) |
| |   o Revised Toxicology Courses (Tox 625 & Tox 626 are scheduled to be revamped in the next 1-2yrs and will meet guidelines) |
4. **Prior Course Work Requirements:**
   The Prior Course Requirements state a student's program may decide to accept coursework completed outside of the student's graduate career at UW-Madison when those courses are rigorous and meet the expectations of graduate work for the degree. The chart below summarizes the policy and its intersection with other policies:

<table>
<thead>
<tr>
<th><strong>Minimum Graduate Residence Credit Requirement</strong></th>
<th><strong>Minimum Graduate Degree Credit Requirement</strong></th>
<th><strong>Minimum Graduate Course Work (50%) Requirement</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prior Graduate Course Work from Other Institution(s)</strong></td>
<td><strong>Course Work from Undergraduate Career at UW-Madison</strong></td>
<td><strong>Transfer from University Special Student Career at UW-Madison</strong></td>
</tr>
<tr>
<td>No</td>
<td>No</td>
<td>*Allowed up to 15 credits numbered 300 or above if difference in tuition is paid.</td>
</tr>
<tr>
<td>*Allowed</td>
<td>*Allowed up to 7 credits numbered 300 or above</td>
<td>*Allowed up to 15 credits numbered 700 or above if difference in tuition is paid.</td>
</tr>
</tbody>
</table>

* Fulfillment of requirements is allowed only if approved by the student's graduate program up to any stated maximum.

**Course work earned five or more years prior to admission to a master’s degree or course work earned ten or more years prior to admission to a doctoral degree is not allowed to satisfy requirements.**

Programs may be more restrictive regarding the type and number of prior course work credits that are allowed to fulfill requirements. Please provide the program's policy around this requirement. If you have different requirements for different tracks of students at the same degree level, please note that accordingly.

Note: Toxicology Core Curriculum includes the following:
- Toxicology 625 – Toxicology 1
- Toxicology 626 – Toxicology 2
- Toxicology 631 – Toxicants in the Environment
- Toxicology 634 – Ecotoxicology
- Toxicology 699 – Directed Study (Prelim A)

<table>
<thead>
<tr>
<th>Name of degree level and any applicable options/tracks</th>
<th>Prior Course Work Requirements: Grad Work Other Institutions; UW-Madison Undergraduate; and UW-Madison University Special</th>
</tr>
</thead>
</table>
| M.S. and Ph.D. – requirements are the same for all | **Grad Work Other Institutions:**
| | • Prior coursework that a student wants to have considered |
 opciones/tracks must be presented within the first month of UW residency
- Core Courses may be appealed
  - Subject to Graduate Achievement Committee Approval
  - Credit total of core course exemptions will need to be made up as electives
- Elective credits may be appealed
  - Subject to Graduate Achievement Committee Approval
  - Further electives will not need to be taken

**UW-Madison Undergraduate:**
- Core courses taken as an undergraduate will not need to be retaken
  - Commonly MET 625 & 626 from the Pharm/Tox Program
  - Commonly MET 634 in F&WE program
- Equivalent number of didactic elective credits from graduate-level courses must be taken to fulfill the previously taken credits / courses

**UW-Madison University Special:**
- Core courses taken as an undergraduate will not need to be retaken
  - Commonly MET 625 & 626, as a student prepares for the Toxicology Program
  - Less common that any other core courses have been taken
- Equivalent number of didactic elective credits from graduate-level courses must be taken to fulfill the previously taken credits / courses

5. **Maximum Credits per Term:**

The Maximum Credits per Term allows non-dissertator students to enroll for a maximum of 15 credits per term. Dissertators must continue to enroll in exactly 3 credits related to their dissertation. Programs may set a lower Maximum Credits per Term for non-dissertators through advising or program policy. Please provide the program’s policy around this requirement. If you have different requirements for different tracks of students at the same degree level, please note that accordingly.

<table>
<thead>
<tr>
<th>Name of degree level and any applicable options/tracks</th>
<th>Maximum Credits per Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.S. – requirements are the same for all options/tracks</td>
<td>12 credits</td>
</tr>
<tr>
<td>Ph.D. – requirements are the same for all options/tracks</td>
<td>15 credits</td>
</tr>
</tbody>
</table>

6. **Effective Dates:**

The GFEC approved the following implementation effective date parameters:
- Any student entering or readmitted to a graduate program on or after Fall 2014 must adhere to the above requirements.
• Currently enrolled master’s students have the option to complete their degree under the prior policy requirements if they can complete all degree requirements and are awarded the degree before Fall 2016.
• Students enrolled in a MFA, specialist certificate, or doctoral degree prior to Fall 2014 have the option to complete their degree under the prior policy requirements.
• A student who chooses to discontinue their degree program for a semester or more will return under the new policy requirements.

Please provide the program’s policy around these parameters. If you have different requirements for different tracks of students at the same degree level, please note that accordingly.

<table>
<thead>
<tr>
<th>Name of degree level and any applicable options/tracks</th>
<th>Effective Dates</th>
</tr>
</thead>
</table>
| M.S. – requirements are the same for all options/tracks | • Policy will become effective Fall 2014 for all incoming students  
• Students currently enrolled as masters students  
  o Will be grandfathered in under the old policy / previous credit requirements  
  o Will need to be complete by Fall 2016 to be allowed to graduate under the grandfathering policy  
  o Students currently enrolled as PHD candidates who decide to leave with a terminal masters and / or current masters students who do not finish by Fall 2016 will need to fulfill newly implemented policy  
• It is presumed that all current masters students will be able to complete by 2016 |
| Ph.D. | Students currently enrolled in the program will be grandfathered in and, if it becomes an issue, will be allowed to graduate under the old, 32 credit requirements.

This policy will be effective immediately for all incoming students.
7. Communication Implementation:
   Please check and insert any relevant notations to each of the following communication steps necessary for appropriate and full implementation of the new policies.

   X We have or will notify prospective and incoming students about these new policy requirements so they can make informed decisions regarding enrollment.
   Notes: Incoming students will be informed of the policies when they arrive and meet for individual coursework advising.

   X We have or will notify current students about these new policy requirements so they understand how they may or may not be impacted.
   Notes: Students will be informed at the beginning of a weekly seminar that new policies are in place, but that they should not affect their progress towards degree. Students will be able to speak with the program advisor about their individual situations as they feel necessary.

   X We have or will update our Fall 2014 (or 2014-15) program handbook and website where appropriate with these new policy requirements prior to the start of the Fall 2014 term.
   Notes:

   X We will be ready to update the Graduate Catalog with these and any other program requirements during the update cycle set to occur between November 2013-April 2014. Please retain a copy of this form as a reference.
   Notes:

8. Notes (Optional):
   Please provide any additional information relevant to your program below or as an attachment.

   The numbers now work out that nearly 100% of graduates in the past ten years would have been able to meet these requirements. As such, we have worded the above requirements to match what is needed. We look forward to the accreditation by the HLC Program.
**Molecular & Environmental Toxicology Program**

Since 1978, the Molecular & Environmental Toxicology (METC) Program has been granting degrees to students who have demonstrated didactic and research prowess in toxicology at the molecular and environmental levels. The program was initially called “Environmental Toxicology,” however, in 2002, “Molecular” was added to the degree, recognizing that importance. Students in this program are, upon graduation, expected to have a didactic knowledge of both Molecular Toxicology and Environmental Toxicology, and to have demonstrated research knowledge in one of those two areas (often determined by the research projects of the advisor). Our graduates go in to many careers – academia, industry, government – and we hold the expectation that their training will position them to be leaders in any of those fields.

*LEARNING GOAL: Students will be able to teach science, engaging audiences and helping them to learn.*

**ASSESSMENTS:**

- Serving as a preceptor in Molecular & Environmental Toxicology Program Core Courses, where the student will demonstrate a knowledge of molecular or environmental toxicology and learn about the criteria that goes in to quality teaching. Preceptors are evaluated by the students in the course at the end of the year, using a standard evaluation form.
- Presenting at the weekly MET 800: Seminar, where students will teach their topic to their peers. Students are assessed by an evaluation form that is filled out by a subset of their peers that is filled out on each occasion.

*LEARNING GOAL: Students will demonstrate a didactic knowledge of both molecular toxicology and environmental toxicology.*

**ASSESSMENTS:**

- Didactic knowledge in Molecular Toxicology will be assessed through multiple formal examinations two courses, MET 625 and MET 626. These two courses collectively cover fundamentals of toxic agents, the physiology & pathology of toxicology, contemporary toxicology, toxicant-induced disorders, organ toxicity, and risk assessment.
- Didactic knowledge of Environmental Toxicology will be assessed through multiple formal examinations in two courses by MET 631 and a series of courses, MET 632-3-4. These four courses cover topics on partitioning compounds in environmental phases, fugacity modeling, environmentally relevant reactions and kinetics, and an understanding of the toxicological natural of different classes of compounds and the ecological concerns.

*LEARNING GOAL: Students will be able to design future experiments and present them as a proposal, which contains background information, experimental processes, and account for any set-backs.*

**ASSESSMENTS:**

- Each graduate student’s laboratory mentor, and their research committee comprised of four additional faculty members, meet yearly to evaluate the student’s performance of experiments in his/her laboratory setting, his/her generation of data, and his/her interpretation of past experiments and future proposed experiments.
- Successful completion of the Preliminary B (Oral) Exam, an NIH- or NSF-style proposal is evaluated by the student’s research committee to determine the quality and appropriateness of the experiments and future directions.
• Successful completion of a responsible conduct of research course, such as OBGYN 955, Surgical Sci 812, or another appropriate course, where the student will learn and discuss the fundamentals of writing and presenting scientific data.

• Successful completion of MET 699, a graded core course that covers the basics of writing a grant proposal, presenting data in a seminar format, and writing scientific manuscripts. The final assignment is a draft of a Prelim B document, which is evaluated by the course director.

**LEARNING GOAL: Students will understand that SCIENCE AND RESEARCH IS BASED ON TRUST – trust between scientists and colleagues, trust between scientists and policy makers, trust between scientists and advisory boards, and trust between scientists and society.**

**ASSESSMENTS:**

• Successful completion of a responsible conduct of research course, such as OBGYN 955, Surgical Sci 812, or another appropriate course, where the student learns and discusses the appropriate use of scientific data and how to resolve various conflicts of interest that occur in a scientific setting.

• Documented attendance at advisory committee meetings, where the student will have his/her progress monitored and evaluated by the PI and other committee members, as well as receiving recommendations on further development.

• Attendance of weekly seminars of their peers and understands the problems and pitfalls experienced by a wide array of graduate students.

**LEARNING GOAL: Students will be able to WRITE FOR A PROPER AUDIENCE, revising and responding to reviewers as appropriate.**

**ASSESSMENTS:**

Required evaluation settings include:

• Successful completion of a responsible conduct of research course, such as OBGYN 955, Surgical Sci 812, or another appropriate course, where the student will learn and discuss the fundamentals and the differences between writing journal articles, proposals, and other scientific communications.

• Successful submission and publication of a research article in peer reviewed literature, developed with the mentoring of the PI.

• Successful submission of a graduate thesis, describing their research, their conclusions, and their future directions.

• Assessment of a scientific proposal (Prelim B) by the Research Advisory Committee at annual meetings, where the student can receive professional advice in a setting that is to foster professional growth.

• Successful completion (writing and defense) of the Preliminary Exam B proposal, as determined by the student’s advisory committee, which will account for ability to write a proposal (generally) and (specifically) the development of specific aims, future experiments, and conducting a literature review of topics.

• Ultimately every student is required to write a thesis that is reviewed by the Thesis Committee. The thesis generally comprises about three chapters, each of which is a manuscript that is to be published. It also contains an introductory chapter and a conclusions chapter that is aimed at more general readers.
LEARNING GOAL: Students will be able to VERBALLY COMMUNICATE THEIR SCIENCE and do-so in a clear manner for a variety of audiences.

ASSESSMENTS:

- Students are asked to present their data before their peers at the MET 800 seminar, where they will teach and respond to questions, as appropriate.
- Attendance at at least one national meeting, where data is presented in either seminar or poster form.
- Successful completion of a responsible conduct of research course, such as OBGYN 955, Surgical Sci 812, or another appropriate course, where the student will learn and discuss various forms of communication and the best ways to present these various forms of communication, teaching, and learning.
- Advisor evaluations at the Annual Committee Meetings, where the advisor and committee will have their research progress evaluated and critiqued; while, at the same time, be able to ask and answer questions that will help as moving forward with new research questions and directions.
- Ultimately students are expected to make a presentation about their work at the beginning of their Thesis Defense. At these talks, students address a broad audience that includes friends and family who are not in the field.
Assessment Tracking & Timeline

The six learning goals presented above are based upon program requirements and milestones that are already monitored by the Student Services Coordinator. As such, assessment tracking will be the duty of the person in said position.

Assessment reporting will be conducted on a three year cycle, with two learning goals assessed for all program students within the Program. The timetable is below:

(focus on goals with assessments including Preliminary Exam B)
   1) Students will be able to design future experiments and present them as a proposal, which contains background information, experimental processes, and account for any set-backs.
   2) Students will be able to write for a proper audience, revising and responding to reviewers as appropriate.

(focus on goals with assessments including verbal communication)
   1) Students will be able to teach science, engaging audiences and helping them to learn.
   2) Students will be able to verbally communicate their science and do-so in a clear manner for a variety of audiences.

Assessment Reporting Year: 2019, 2022, 2025 . . .
(focus on coursework)
   1) Students will demonstrate a didactic knowledge of both molecular toxicology and environmental toxicology.
   2) Students will understand that science and research is based on trust – trust between scientists and colleagues, trust between scientists and policy makers, trust between scientists and advisory boards, and trust between scientists and society.
Annual Individual Development Review / Progress Report

Name: ______________________

Program: ____________________

Advisor: ______________________

Department: __________________

Committee Members                  Department

_________________________________    ______________________

_________________________________    ______________________

_________________________________    ______________________

_________________________________    ______________________

_________________________________    ______________________

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<th>Pgs</th>
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<tr>
<td>Self-Skills Assessment</td>
<td>3-5</td>
</tr>
<tr>
<td>(filled out by student, shared with mentor)</td>
<td></td>
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<tr>
<td>Skills Development Plan</td>
<td>7-10</td>
</tr>
<tr>
<td>(filled out by student, shared with mentor)</td>
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<tr>
<td>Mentor’s Evaluation of Student</td>
<td>11-12</td>
</tr>
<tr>
<td>(filled out by mentor, shared with student)</td>
<td></td>
</tr>
<tr>
<td>Committee Member Evaluation</td>
<td>13</td>
</tr>
<tr>
<td>(printed and given to each committee member to evaluate student)</td>
<td></td>
</tr>
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</table>
Individual (Career) Development Plans (IDPs) are an important component of student development and professionalization. The purpose of the IDPs is to encourage thoughtful and purposeful career planning and goal setting that will help guide a student through graduate studies and on to the next stage of his or her career. Students should seek guidance from their advisors, their committee members, the program coordinator, the program director, and other mentors as they identify their priorities and goals and craft a plan accordingly.

In October 2014, the National Institutes of Health (NIH) began requiring that all trainees on their grants to have competed and have an active IDP. The Graduate School at the University of Wisconsin began requiring IDPs of all graduate students to be monitored by the programs. Neither the NIH nor the Graduate school specified how this should be done.

This IDP has been created for students in the Molecular & Environmental Toxicology Program. This document should serve as a means to begin discussing your year’s progress with your advisor prior to your annual committee meeting. This includes a self-assessment, a development plan, and an assessment for your mentor to complete. These three documents should be discussed one-on-one when completed (if not worked on together).

The final page of this document should be printed, one for each committee member. At the meeting, it should be handed out to your members, so that each can evaluate your progress.

Following your committee meeting, all of these documents need to be returned to the program office. This is a requirement. *If you do not meet with your committee annually, holds may be placed on your enrollment for future semesters.*

This IDP is based upon IDPs used by / at the following groups:

- American Association for the Advancement of Science
- University of Pennsylvania
- Graduate School of the University of Wisconsin-Madison
- University of California-San Francisco
- Obstetrics & Gynecology of the University of Wisconsin; T32 Grant in Health Disparities
- TEAM Science Program at the University of Wisconsin-Madison
- Medical Sciences Training Program at the University of Wisconsin-Madison
SELF-SKILLS ASSESSMENT

These rubrics and questions are designed to have you, the student, evaluate yourself and figure out where the biggest gaps in your training currently are. After you have completed this assessment and the following Development Plan (next section), you should meet with your mentor to discuss your findings.

Assessment Rubric
Please evaluate yourself using the below-listed rubric: 1-Major Improvements Necessary; 2-Needs Improvement; 3-Average (where a graduate student should be); 4-Advanced for a graduate student; 5-Exceptional (at postdoc or better levels)

<table>
<thead>
<tr>
<th>Communication Skills</th>
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<th>3</th>
<th>4</th>
<th>5</th>
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<td>Oral Presentation Skills</td>
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<td>3</td>
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<td>Manuscript Writing Skills</td>
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<td>Poster Creation &amp; Presentation</td>
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<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>Powerpoint Creation &amp; Presentation</td>
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<td>2</td>
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<td>4</td>
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<td>Teaching Skills</td>
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<td>4</td>
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<td>Mentoring Skills</td>
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<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>Communication with non-scientists</td>
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<td>3</td>
<td>4</td>
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<td>4</td>
<td>5</td>
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<td>Research Skills</td>
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<td>2</td>
<td>3</td>
<td>4</td>
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<td>Experimental Design</td>
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<td>Statistical Analysis</td>
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<td>4</td>
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<td>Interpretation of Data</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>Creativity (in developing new directions)</td>
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<td>2</td>
<td>3</td>
<td>4</td>
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<td>Literature Reviews</td>
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<td>Troubleshooting</td>
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<td>3</td>
<td>4</td>
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<td>N/A</td>
</tr>
<tr>
<td>Interpersonal / Professional Skills</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N/A</td>
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<tr>
<td>Communication with colleagues</td>
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<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>(International) English Proficiency</td>
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<td>Collaboration Skills</td>
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<td>Conflict Resolution</td>
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<tr>
<td>Using Responsible Research Practices</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N/A</td>
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</tbody>
</table>
Moving Beyond Graduate School

Time to Graduation

How long do you think you have to graduate? __________

What THREE further skills / projects should you learn / hone / master / complete in the next year / before graduating?

a) 

b) 

c) 

Career Skills & Planning

Please evaluate yourself using the below-listed rubric: 1-Major Improvements Necessary; 2-Needs Improvement; 3-Average (where a graduate student should be); 4-Advanced for a graduate student; 5-Exceptional (at postdoc or better levels)

<table>
<thead>
<tr>
<th>Professional Networking</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>N/A</th>
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<tbody>
<tr>
<td>Identification of career options</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N/A</td>
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<tr>
<td>Preparation of application materials</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N/A</td>
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<tr>
<td>CV</td>
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<tr>
<td>Interviewing Abilities</td>
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<td>5</td>
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<td>Negotiation Abilities</td>
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<tr>
<td>Mentoring Skills</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N/A</td>
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</tbody>
</table>
**What is your preference (%) for the following careers at this time?**

<table>
<thead>
<tr>
<th>Career</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academia (Professor)</td>
<td>__________</td>
</tr>
<tr>
<td>Academia (Scientist)</td>
<td>__________</td>
</tr>
<tr>
<td>Industry</td>
<td>__________</td>
</tr>
<tr>
<td>Government</td>
<td>__________</td>
</tr>
<tr>
<td>Other</td>
<td>__________</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Have you shared this evaluation with your mentor? __________

Have you discussed this evaluation with your mentor? __________

Anything else to add?

Student Signature: ____________________________________________

Mentor Signature: ____________________________________________
SKILLS DEVELOPMENT PLAN

Using the assessment above to point out certain short-comings, this development plan is used to spot deficiencies and plan out how to improve up on them. After you have completed your plan, you should meet with your mentor to discuss your vision moving forward.

We would also encourage you to share this plan with your committee at your next meeting.

In the Past Year . . .

What is your project / thesis title?

Briefly describe your project.

**Project Evaluation:** Evaluate where you are with your research project?

<table>
<thead>
<tr>
<th>Aims</th>
<th>Progress</th>
<th>Next Planned Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aim 1:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aim 2:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aim 3:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

What were your biggest accomplishments last year?

a) 

b) 

c)
What did you do?

Conferences Attended
a) b) c)

Papers Written
a) b) c)

Development Courses Attended
a) b) c)

Presentations Given
a) b) c)

Grants written
a) b) c)

Teaching & Leadership Activities
a) b) c)

Any other activities you want to mention?
In the Year to Come . . .

Goals
What are your goals for the next year? What do you need to do to reach them?

a) a)

b) b)

c) c)

Did you achieve any unexpected results in last year? __________

How (if at all) did this results change the direction / focus of your research?

Were there any goals from last year that you did not meet? What prevented you from them?
Pressing Forward . . .
Room for Improvement
What are areas you would like to improve in? 
How do you propose to improve?

a) 

b) 

c) 

Future Employment
What are your goals for . . .
The next 3-5 years? 
The next 10+yrs?

a) 

b) 

c) 

What are your plans to make this happen?

Have you shared this plan with your mentor? 

Have you discussed this plan with your mentor? 

Student Signature: ________________________________

Mentor Signature: ________________________________
MENTOR’S EVALUATION OF STUDENT

This is the mentor’s turn to evaluate the student. Using the below rubric and space, please provide an assessment of how you think that your student is doing. On the rubric, this should be compared to the average graduate student.

This two-page form should be filled out in communication / collaboration, mentor and student.

Following the student’s committee meeting, this form should be turned in to the Program Administrator. Copies will be made for the student.

**Mentor Evaluation of Student**

Please evaluate your student using the below-listed rubric: 1-Major Improvements Necessary; 2-Needs Improvement; 3-Average (at graduate student level / expectations); 4-Advanced for a graduate student; 5-Exceptional (at postdoc or better levels)

<table>
<thead>
<tr>
<th>Knowledge of Science</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deep Knowledge of Research Topic</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N/A</td>
</tr>
<tr>
<td>Abilities of field-necessary skills</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N/A</td>
</tr>
<tr>
<td>Data Analysis and Interpretation</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N/A</td>
</tr>
<tr>
<td>Laboratory Notebook Maintenance</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N/A</td>
</tr>
<tr>
<td>Evaluation of Scientific Literature</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N/A</td>
</tr>
<tr>
<td>Helpfulness in the Lab</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N/A</td>
</tr>
<tr>
<td>Ability to Follow-Through</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N/A</td>
</tr>
<tr>
<td>Project Management</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N/A</td>
</tr>
<tr>
<td>Organizational Skills</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N/A</td>
</tr>
<tr>
<td>Seeking (and accepting) advice</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N/A</td>
</tr>
<tr>
<td>Negotiating Difficult Situations</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N/A</td>
</tr>
<tr>
<td>Following Lab Procedures &amp; Protocol</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Mentor’s Plan for Student Development
What THREE further skills / projects should your student learn / hone / master /complete in the next year / before graduating?

a)  

b)  

c)  

How long do you think your student has until his/her defense? __________

Have you shared this evaluation with your student? __________

Have you discussed your concerns with your student? __________

Were any further issues discussed during the committee meeting? __________

After comparing your evaluation and that of your student, what further comments do you have? These should be constructive.

Student Signature: ________________________________

Mentor Signature: ________________________________
Student Name: ______________________________

COMMITTEE MEMBER EVALUATION
(to be filled out at the time of meeting)

This form is for the student’s committee members to fill out during the committee meeting. This will give the committee the opportunity to provide their insights into the student’s progress and the student the opportunity to receive feedback from all s/he is working with.

The student should print out and provide a copy of this page for each of their committee members at the committee meeting. Following the meeting, they should be turned in to the Program Administrator. Copies will be made for the student.

Were you at the committee meeting? __________

(If not) When did you meet? __________

Do you approve of the student’s progress? __________

(If 6mo mtg) Is the student ready to graduate? __________

What tasks need to be completed in the next year / before the student can defend?

a) ________

b) ________

c) ________

Please write below any comments that you would like to have shared with the student, based on the meeting. Please try to be as constructive as possible.

Signature: ______________________________  Date: ________________
Molecular and Environmental Toxicology Center
Research Advisory Committee Approval Form

In conjunction with your major professor please complete this form. Upon securing the signature of your major professor, deliver document to the METC Program Administrator no later than April 15th.

The Chair of the Graduate Achievement Committee (GAC) subcommittee will review your educational plans. Upon review and any recommended changes, your certification form will be approved and a copy returned to you within 30 days of receipt.

STUDENTS NAME: ________________________________

M.S. Students need 3 committee members ‘including advisor’
Ph.D. Students need 4 committee members ‘including advisor’

For PhD, ONE member should be from outside the major field of the student AND at least ONE outside of METC affiliation.

At a minimum ONE MUST BE from outside field. (Graduate School Requirement) meaning if your advisor if from Oncology, then one of your committee members should be from outside Oncology.

The following faculty members have agreed to serve on the Research Committee of above named student.

<table>
<thead>
<tr>
<th>Name of Faculty</th>
<th>Rank</th>
<th>School/College &amp; Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>(LAST NAME, First Name)</td>
<td>(Prof, Asst. Prof, Assoc. Prof)</td>
<td>Major Professor</td>
</tr>
<tr>
<td>1.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Shaded Area is Optional – Used for MINOR Advisor – Or Maybe Expert from Outside UW

☐ Attached to this form is a page that:

1. Briefly describes students research project, and
2. Identifies the role and special expertise of each member of students Research Advisory Committee, other than major professor, which will justify their presence on committee.

________________________  __________________________  __________________________
Signature of Student                Date of Meeting                  Signature of Major Professor

________________________
Signature of GAC Chair

Shared/Forms/Research Advisory Committee.doc
STUDENT NAME: _____

BRIEF DESCRIPTION OF RESEARCH PROJECT

ROLE and/or SPECIAL EXPERTISE TO JUSTIFY EACH COMMITTEE MEMBERS

1. _______________, Major Professor (does not need justification)

2. _______________,

3. _______________,

4. _______________,

5. _______________,

*Needs completed if you have professors listed on these lines on front page*
Selecting a Thesis Advisor
By the Molecular and Environmental Toxicology Center Student Liaison Committee, 2010

Before you start: Defining your own needs

- **Guidance**: Be honest with yourself about the guidance you expect from your advisor. The need for guidance varies dramatically from person to person; those with a lot of lab experience generally need less than those with none. If you are not sure what you want to do after graduate school, you will probably want an advisor who will be open-minded in giving career advice. A toxicology degree is very marketable so a career in industry or the government is just as open to you as a career in academia.

- **The lab environment**: Some labs are small (yourself and your major professor), and some are enormous (technicians, post-docs, graduate and undergraduate students). Some labs are very close-knit and sociable, others may be less social and more competitive. Some labs indulge in the most cutting edge automated technology and equipment, in others you will become very familiar with the old style basics.

- **Your interests**: You will be much more successful working on something that you personally find interesting. Remember this as you read through this document. This guide is intended to help you find a good thesis advisor who will help get you started on the right track towards a successful and enjoyable career.

**Homework: things you find out without visiting the campus:**

**Finding the Professors**: The professors affiliated with the Molecular & Environmental Toxicology Program are listed on that web (metc.wisc.edu/people_category/faculty/), and many of them have their own websites containing a description of their research interests. You can get an idea of how far along professors are in their own careers by their titles: Associate and Full Professors are tenure-track, and have established their lab environments. They may be more “hands off,” in terms of mentoring students. Assistant Professors are newer to the University, and are setting up their labs, so the lab can eventually run itself. As such, they may have more time to spend mentoring students. Some students, especially those with more lab experience, may find that a bit frustrating in their approach to directing research.

**A literature search**: Even if you find the papers themselves to be overly dense (most of us do at first), a literature search can answer several important questions. Do not feel that you have to read all of the papers you find.

- **How productive is the lab?** Search Medline (Pubmed) and the Web of Science ISI Citation Index under the professor’s name. An active lab should publish yearly.

- **How relevant is the research?** One measure of the importance of a paper is how often it is referenced by other papers. Check the Citation Index (more recent papers will not have been cited as much as older ones of course).

- **Where do the papers get published?** Nobody can read all of the work that’s published, so most people will read a few journals with a very broad scope and one or two in their own area of expertise. Publications in *Science* and *Nature* are highly prestigious. Other prestigious broad scoped journals include the *Proceedings of the National Academy of Sciences*. 
Sciences, Cell, EMBO Journal, and the Journal of Biological Chemistry. Since this is a toxicology program, publications in specialty journals such as Toxicological Sciences, Cancer Research, Cancer, Environmental Health Perspectives, Environmental Science & Technology and Toxicology & Applied Pharmacology are also good. These are just a few examples to get you started and should not be used as an exclusive list; there is a wide variety of high caliber journals.

- **Who writes the papers?** Typically, the person who did most of the research and actual writing is listed first, and the person who directed the research (the thesis advisor) is listed last. A good thesis advisor will guide you through the production of a manuscript. Editing and feedback are critical for learning the art of scientific writing. Graduate students should be first author on at least one paper while they are in graduate school.

**Researching Funding:** National Institutes of Health (NIH), National Institutes of Environmental Health Sciences (NIEHS) and National Science Foundation (NSF) grants are very prestigious. To see if a professor has one or more of these, look through an on-line database available through the NIH website (https://www.nih.gov/) or the NSF website (https://www.nsf.gov/). There are other very good sources of funding through different funding agencies or industrial collaborations for example. The absence of an NIH grant does not mean that there is not enough money to support another graduate student. Professors will not resent questions about funding. If anything, they will probably be impressed.

Although the Director and METC Office will try to direct students towards labs that have relatively stable funding situations, it is possible for a student arriving with funding (either through a fellowship or SciMed GRS stipend, for example) to enter a lab that could not fund them otherwise. This may require the student to apply for various fellowships or for the mentor to receive funding on a grant. This sort of lab environment can become highly stressful, and students considering such a lab should weigh whether or not they could manage that situation.

**When you visit the campus:**
We know that not all of you will be able to do this. If you cannot visit, we strongly suggest you contact both individual professors (most but not all respond well to e-mail) and students (the METC office can put you in contact with the appropriate toxicology students) with these questions.

**Prospects for graduate students in this lab:**
- **How long does it take to graduate?** Ask everybody, professor and students, this question. Five years is ideal. At the University of Wisconsin, the average time is six to six and a half years. For the program, it is five and a half years. If a professor has had a lot of students who have taken seven or more years to graduate, you can expect to be there awhile. Spending more than seven years in graduate school may raise eyebrows among some potential future employers.
- **How many graduate students have actually graduated?** If the professor is fairly young, there will not have been many. You want to find out if there has been a long history of students leaving without getting their degrees. If this is the case, you definitely want to
find out why they left. Talk to both students who have left and students who have decided to stay.

- Do lab members attend national meetings? The most popular ones in this program are annual meetings for the Society of Toxicology, the American Association of Cancer Researchers, the Society of Environmental Toxicology & Chemistry, the American Association for Microbiology, the American Chemical Society, and the Soil Science Society. These are great places to present your work. Ask professors and graduate students if they attend and present research at these meetings.

- Do you have access to the expertise you need? Will anyone skilled at troubleshooting experiments help you or will you be learning new techniques on your own? Will your experiments involve well-established procedures or will you have to start from scratch? Will your project be well defined, or will you run the risk of spending a long time defining your project before you generate useful information? Access to expertise and mentoring is extremely important to your productivity.

- What have graduate students from this lab done with their degrees? This is a very good question to ask professors. They should want to brag about what past students are doing now. The METC website has a list of graduates of the program, including job titles and contact information.

Lab Dynamics:

- Lab meetings: If at all possible, attend a lab meeting. Most labs have these once a week. This is a good place to get an idea of how people get along. Are people offering constructive criticism? Does everybody get a chance to talk? Do they review the current literature?

- Talking to potential lab mates: At some point, it is absolutely critical that you talk privately with the people who work in the lab. You can do this through e-mail if you want. Talk to as many people individually as possible. Things you may want to know:
  1. Do they feel that they are getting enough or too much guidance from the professor?
  2. What do they like and dislike most about working there?
  3. When do they expect to finish and what do they hope to do when they’re done?
  4. How are “chores” handled (e.g. washing dishes, making reagents, ordering)?
  5. How are equipment and space issues handled?
  6. Are there difficulties in obtaining supplies (for example, due to funding shortages)?

Funding Issues

Rotations: Rotating through several labs during your first semester helps tremendously in finding a good lab, and is required of all incoming Ph.D. students. Ideally, before arriving on campus, you will have decided on which three of the several dozen professors affiliated with METC to try, and have contacted them to arrange a rotation. Through allocations from the Graduate School, METC is able to support student rotations for their first semester, until an advisor is identified.
Rotating is a great way to find out how well you will get along in a given lab, in addition to learning laboratory techniques, but it can also be stressful and time consuming. The director has one or two meetings with first year students to discuss lab situations, class life, and other issues, so students can commiserate and learn more about different labs and mentoring techniques.

When arriving on campus, it may seem like some students have all of their rotations identified. That is not a requirement. In fact, some students do not determine their second or third rotations until after their first rotation has already begun. It is okay to identify rotations later, and even to change your mind about which labs to rotate in. It is important to identify a lab before the rotation begins. Keep the METC Office informed about where you are going, and do not hesitate to ask if you would like some suggestions on potential labs and professors to contact.

Types of support:
- Research Assistantships: These are what most METC graduate students receive. Your thesis advisor pays your tuition and a stipend for living expenses in exchange for you working in his or her lab. You will need to find a thesis advisor who has enough money to support you for your entire graduate career. The METC office polls professors affiliated with the Center every year to see if they have space and/or money for a new graduate student. Not all of the professors reply, but it is a good place to get started.
- Teaching Assistantships: Occasionally students have taken a teaching assistantship to support themselves (the teaching of METC classes required by the METC is not an assistantship). Foreign students must pass a spoken English proficiency test to qualify (a SPEAK test score of 50). Teaching can be an excellent experience for students who think they may want to teach after graduate school, but it takes up a lot of time. It will take longer to get your degree since you will spend less time in the lab. If you are interested in a lab in which graduate students are supporting themselves with a teaching assistantship rather than a research assistantship, be sure to speak with the students to find out why they have agreed to this arrangement.
- Science and Medicine Graduate Research Scholars Program (SciMed GRS): This program, which METC is a part of, helps to enhance the experiences of underrepresented minorities on campus. In addition to professional development and social activities, the program also can provide up to two years of funding for underrepresented minority students. If you would like more information, contact the METC Office, as there are some semesters that the program has extra funding available to students.
- Training Grants and Fellowships: Typically, your thesis advisor provides support for you during your education in the form of a research assistantship. If you can get a grant or fellowship, it means that more labs will be open to you since you come with some support of your own. The METC tries to support everybody who needs it at least once with the METC training grant for two years. If a professor specifically asks you about the METC training grant, tell him or her that this grant can probably support you for a couple of years at some point and direct him or her to the METC to find out how students are selected. Those of you interested in industry might want to check the
Biotechnology Training Program (btp.wisc.edu), which also has a training grant. International students are not eligible for training grants. There is also an amazing amount of information on the Web about financial support for graduate research. To get started, check this site: https://grad.wisc.edu/studentfunding/currentstudents/.

**International Students:**
You will need to prove to the graduate school that you have sufficient funds to pay for your first year of graduate school before you can get a student visa. This can be either your own money, money from a parent and/or sponsor, a government (either the US or your own) or university fellowship or a research or teaching assistantship from the University of Wisconsin. With the exception of research or teaching assistantships, you will not be able to work in the United States. You are not eligible for training grant support from NIH.

**Additional Information:**
This information is based on our own experiences as METC graduate students here at the University of Wisconsin. For more information, check the following websites. Some may require a subscription (which a university library should have) or for you to register (for free).
- ACM crossroads student e-magazine article titled “How to Succeed in Graduate School”: http://xrds.acm.org/article.cfm?aid=1375975
- Science Magazine’s website for science career guidance: www.sciencemag.org/careers

**DO NOT RUSH THIS DECISION!**
It is your right to get as much information as you can before committing yourself to a lab. If a professor pushes you for a commitment right away, please be careful about jumping right in. It’s fine if you know for sure you want to work there, but don’t commit yourself to a lab prematurely just because the professor says he or she has 4 or 5 students interested but only enough money/space/time for one. Finding the right lab for yourself can be a difficult and stressful process, but taking the time to find a good one will be worth it in the end.
I. Course Information

Instructor Information

Primary Course Instructor: Ian M. Bird, PhD
Office: 7 E. Meriter Hospital, 202 S. Park St, Madison, WI 53715
Office Hours: By appointment only
Office Telephone: 608-417-6252 (use only if an emergency)
E-mail: imbird@wisc.edu (Contact by Email first)

Course Administration

Course Administrator: Grace Jensen
Office: 1465 MSC, 1300 University Ave., Madison, WI 53706
Office Hours: 8:30 am – 4:30 pm Monday-Friday
Office Telephone: 608-265-5838
E-mail: gjensen2@wisc.edu

Course Time and Location:

Class Time: 1:15 – 3:15 pm
Day: Wednesday
Location: WIMR (1111 Highland Avenue), room 5001A

Course Description

Meets the NIH Institutional Training Grant requirements of instruction in the nine recommended areas of

A. Conflict of interest - Personal, professional, and financial
B. Policies regarding human subjects, live vertebrate animal subjects in research, and safe laboratory practices
C. Mentor/mentee responsibilities and relationships
D. Collaborative research including collaborations with industry
E. Peer review
F. Data acquisition and laboratory tools; management, sharing and ownership
G. Research misconduct and policies for handling misconduct
H. Responsible authorship and publication
I. The scientist as a responsible member of society, contemporary ethical issues in biomedical research, and the environmental and societal impacts of scientific research for MS and PHD graduate students in the Biological Sciences.
Weekly lectures will be followed by small group discussion of reading assignments of case studies. Invited guest speakers and faculty will be the primary source of instruction for the first hour of the course.

**Prerequisite**
- Graduate Student Standing Only

**Textbook & Course Materials**

**Required Text**

_This book is being provided students enrolled in the course on loan for use during the semester._

**Recommended Texts & Other Readings**
- Making the Right Moves: A Practical Guide to Scientific Management for Post-docs and New Faculty, Howard Hughes Medical Institute
  Download the book at: [http://www.hhmi.org/resources/labmanagement/moves.html](http://www.hhmi.org/resources/labmanagement/moves.html)
- Other readings will be made available in the MY UW Course site or distributed in class.

**Course Requirements**
- Internet connection (DSL, LAN, or cable connection desirable)
- Access to MY UW and Learn@UW Course Site

**Course Structure**

**Class Format** - The first hour of class will be lecture format on the topic listed in the syllabus by either the instructor indicated or an appropriate invited speaker. The second hour of class will focus on a discussion of case studies and application of ideas and concepts from the lecture.

**Online Resources** - Additional resources will be presented in class or made available in the course website at Learn@UW

- AAMC Pre & Postdoctoral Scholar’s Mentor/Mentee Compact
- Scientific Integrity - a companion site to the text book: [www.scientificintegrity.net](http://www.scientificintegrity.net)
II. **Course Objectives**

**Learning Objectives** - This course is designed to facilitate the acquisition of knowledge through a sequence of lectures and group discussion on the nine recommended topics in Responsible Conduct of Research established by the National Institutes of Health. Each lecture has specific learning objectives to be accomplished by the end of the two hour class period. Measurement of learning objectives will include observation of group discussion and a final written exam. A pre- and post-course survey will also be administered covering content from the weekly lectures. Students will also complete a course evaluation form on the final day of class.

III. **Lecture Schedule**

<table>
<thead>
<tr>
<th>Date</th>
<th>Course Topics</th>
<th>Instructor</th>
<th>NIH Topics Covered</th>
<th>Reading Assignment (Macrina Book)</th>
</tr>
</thead>
<tbody>
<tr>
<td>09/03/2014</td>
<td>Course Introduction</td>
<td>Ian Bird, PhD</td>
<td>A, B, D, G, I</td>
<td></td>
</tr>
<tr>
<td>09/10/2014</td>
<td>Human Subjects</td>
<td>Heather McFadden, PhD</td>
<td>A, B, D, F, G, H, I</td>
<td>Chapter 5</td>
</tr>
<tr>
<td>09/17/2014</td>
<td>Mentor/Mentee Responsibilities</td>
<td>Ian Bird, PhD</td>
<td>A, C, I, H, G</td>
<td>Chapter 3</td>
</tr>
<tr>
<td>10/01/2014</td>
<td>Vertebrate Animals</td>
<td>Ronald Magness, PhD</td>
<td>A, B, C, D, F, G, H</td>
<td>Chapter 6</td>
</tr>
<tr>
<td>10/08/2014</td>
<td>Research Misconduct</td>
<td>Patti Keely, PhD</td>
<td>A, B, C, D, E, F, G, H, I</td>
<td>No book chapter</td>
</tr>
<tr>
<td>10/15/2014</td>
<td>Conflict of Interest</td>
<td>Brigid Daly, JD</td>
<td>A, B, C, D, E, F, G, H, I</td>
<td>Chapter 7</td>
</tr>
<tr>
<td>10/22/2014</td>
<td>Creating a positive work environment</td>
<td>Rosa Garner, JD</td>
<td>A, C, D, G, I</td>
<td>No book chapter</td>
</tr>
<tr>
<td>10/29/2014</td>
<td>Funding Scientific Research</td>
<td>Nihal Ahmad, PhD</td>
<td>A, B, D, E, F, G, H, I</td>
<td>No book chapter</td>
</tr>
<tr>
<td>11/05/2014</td>
<td>Authorship &amp; Peer Review</td>
<td>Jon Audhya, PhD</td>
<td>A, B, C, D, E, F, G, H, I</td>
<td>Chapter 4</td>
</tr>
<tr>
<td>12/03/2014</td>
<td>Collaborative Research</td>
<td>Steve Harsy, PhD</td>
<td>A, B, C, D, E, F, G, H, I</td>
<td>Chapter 8</td>
</tr>
</tbody>
</table>
IV. Grading Policy

Graded Course Activities

<table>
<thead>
<tr>
<th>Points</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 points</td>
<td>Attendance and Participation</td>
</tr>
<tr>
<td>50 points</td>
<td>1 Comprehensive Final Exam</td>
</tr>
<tr>
<td>100 points</td>
<td>=100%</td>
</tr>
</tbody>
</table>

Attendance, Participation and Absence Policy
This course is scheduled to meet 1 day per week for two hours each session and weekly attendance will be taken. Topics in this course have the potential to generate and stimulate a robust discussion with many diverse points of view; you the student will benefit from active participation in large and small group discussion as in many situations there are no clear cut answers to the situations in the case studies.

Class Participation Expectations - Students are expected to have completed the required readings prior to the start of each class. While participants may be passionate about a particular point of view, discussion is expected to remain respectful of all individuals, levels of experience and area of scientific study.

Absences - Students are expected to notify the course coordinator by email at least one week in advance of planned absence.

Exams
There will be 1 comprehensive take home exam due on the final day of class that integrates all of the material learned throughout the semester. More details will be provided in November. The exam must be deposited in the drop box in Learn@UW by 3:30 pm on the posted due date to receive full credit.

Viewing Grades in Learn@UW
Points you receive for graded activities will be posted to the Learn@UW Grade Book.

Your instructor will update the online grades each time a grading session has been complete—typically within 7 days following the completion of an activity.

Letter Grade Assignment
This course will follow the standard A-F grading scale at UW-Madison:

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Percentage</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93-100%</td>
<td>Excellent Work</td>
</tr>
<tr>
<td>AB</td>
<td>87 – 93%</td>
<td>Nearly Excellent Work</td>
</tr>
<tr>
<td>B</td>
<td>83-86%</td>
<td>Good Work</td>
</tr>
<tr>
<td>BC</td>
<td>77-82%</td>
<td>Above Average Work</td>
</tr>
<tr>
<td>C</td>
<td>70-76%</td>
<td>Average Work</td>
</tr>
<tr>
<td>D</td>
<td>60-69%</td>
<td>Below Average Work</td>
</tr>
<tr>
<td>F</td>
<td>0-59%</td>
<td>Failing Work</td>
</tr>
</tbody>
</table>
V. Course Policies

Understand When You May Drop This Course

It is the student’s responsibility to understand when they need to consider withdrawing from a course. Refer to the Registrar’s website for dates and deadlines for registration and withdrawal.

Inform Your Instructor of Any Accommodations Needed

If you have a documented disability and verification from the McBurney Center, and wish to discuss academic accommodations, please contact your instructor as soon as possible.

Use of Handheld Devices

All handheld devices including but not limited to iPads, smart phones, laptop computers and tablet devices must be turned off during the first hour of the lecture. Devices may be used during the discussion session provided their use is relevant to the task at hand. The instructor reserves the right to temporarily retrieve electronic devices from students as needed.

Commitment to Integrity

The following text is provided by the Graduate School Academic Guidelines access online 11/30/2011 from the following site: http://www.grad.wisc.edu/education/acadpolicy/guidelines.html#127

Misconduct, Academic

Graduate students should be aware that the university holds graduate students to a high standard of academic integrity and believes that misconduct may warrant university discipline in addition to sanctions imposed by an instructor. Graduate students who have been found by their instructors to commit academic misconduct can expect that the Division of Student Life will consider whether to impose a further disciplinary sanction of university probation, suspension, or expulsion.

Chapter 14 of the University of Wisconsin Administrative Code defines academic misconduct as follows:

Academic misconduct is an act in which a student:

1. seeks to claim credit for the work or efforts of another without authorization or citation;
2. uses unauthorized materials or fabricated data in any academic exercise;
3. forges or falsifies academic documents or records;
4. intentionally impedes or damages the academic work of others;
5. engages in conduct aimed at making false representation of a student's academic performance; or
6. assists other students in any of these acts. UWS 14.03(1)

Examples of academic misconduct include but are not limited to:

1. cutting and pasting text from the Web without quotation marks or proper citation;
2. paraphrasing from the Web without crediting the source;
3. using notes or a programmable calculator in an exam when such use is not allowed;
4. using another person’s ideas, words, or research and presenting it as one’s own by not properly crediting the originator;
5. stealing examinations or course materials;
6. changing or creating data in a lab experiment;
7. altering a transcript;
8. signing another person's name to an attendance sheet;
9. hiding a book knowing that another student needs it to prepare for an assignment;
10. collaboration that is contrary to the stated rules of the course; or
11. tampering with a lab experiment or computer program of another student.

The full text of the state statute governing academic misconduct, UWS 14, Student Academic Disciplinary Procedures, as well as the UW-campus procedures for implementing the provisions of UWS 14 and general information about academic misconduct, are available at web location students.wisc.edu/saja/misconduct/UWS14.html or from the Division of Student Life, 75 Bascom Hall, (608) 263-5700.
Advanced Responsible Conduct of Research for Biomedical Graduate Students

OBGYN 956

Spring 2018

I. Course Information

Instructor Information
Primary Course Instructor: Ian M. Bird, PhD
Office: 7 E. Meriter Hospital, 202 S. Park St, Madison, WI 53715
Office Telephone: 608-417-6252 (use only if an emergency)
E-mail: imbird@wisc.edu (Contact by Email first)

Course Administration
Course Administrator: Shelley Maxted
Office: 1010 McArdle Building, 1400 University Ave; Madison, WI 53706
Office Telephone: 608-263-4825
E-mail: maxted@wisc.edu

Course Time and Location:
Day: Tuesdays Class Time: 8:30 a.m. – 10:00 a.m.
Location: Temin Room, McArdle Building, 1400 University Ave.

Course Description
Meets the NIH Institutional Training Grant requirements of instruction in the nine recommended areas of:

A. Conflict of interest - personal, professional, and financial
B. Policies regarding human subjects, live vertebrate animal subjects in research, and safe laboratory practices
C. Mentor/mentee responsibilities and relationships
D. Collaborative research including collaborations with industry
E. Peer review
F. Data acquisition and laboratory tools; management, sharing and ownership
G. Research misconduct and policies for handling misconduct
H. Responsible authorship and publication
H/I. Rigor & Reproducibility
I. The scientist as a responsible member of society, contemporary ethical issues in biomedical research, and the environmental and societal impacts of scientific research for PHD graduate students in the Biological Sciences.

Weekly lectures will be followed by small group discussion of reading assignments of case
studies. Invited guest speakers and faculty will be the primary source of instruction for the first hour of the course.

This course is NOT a repetition of OBGYN 955. This course is designed to provide advanced consideration of these responsible conduct of research topics, and to teach students how to implement and employ best practices in relation to these topics.

Prerequisites
- Completion of a graduate-level basic responsible conduct of research course (OBGYN 955; Pharmacy 800; Nursing 802; Surgical Sciences 812; or Bacteriology 901)

Textbook & Course Materials

Required Text
  (This book will be loaned to enrolled students for use during the semester)

Recommended Texts & Other Readings
- Other readings will be made available in the MY UW Course site or distributed in class.

Course Structure
The first portion of class will be lecture format on the topic listed in the syllabus by either the instructor indicated or an appropriate invited speaker. The second 45 minutes of class will focus on a discussion of case studies and application of ideas and concepts from the lecture.

II. Course Goals

This course is designed to facilitate the acquisition of knowledge through a sequence of lectures and group discussion on the nine recommended topics in Responsible Conduct of Research established by the National Institutes of Health. Specific course goals are:

1. To provide more advanced career stage-appropriate training in the responsible conduct of biomedical research as Trainees consider Grant Applications
2. To review important concepts and methods of ensuring responsible conduct, and now extend this to include common practices in proposing and reporting responsible conduct in biomedical research
3. Exercises and discussions will be used to assess progress in one’s knowledge and understanding of the responsible conduct of biomedical research

III. Student Learning Goals

1. Be knowledgeable of the ethics and philosophies that shape our understandings of the responsible conduct of biomedical research

2. Understand and utilize some best practices in the responsible conduct of biomedical research

3. Be aware of mechanisms and processes available to UW-Madison graduate students to help ensure the practice of the responsible conduct of biomedical research

4. Obtain a more comprehensive understanding of the responsibilities, requirements, monitoring, and reassurances involved in successful contemporary biomedical scientific research and how they are used in planning for or applying for grant support, as well as in reporting the progress made in grant-funded studies

IV. LECTURES
(Discussants at each lecture will be program trainers, in addition to the named presenter)

A. Conflict of Interest

**Required Reading**: Macrina, Chapter 7

**Possible Lecturer**: Representatives from WARF

1) Refresher: What is conflict of interest

2) Advanced Consideration
   a. Outside Activity Reports
   b. Clinical trials and participation
   c. Advising conflicts (industry policies, university policies)
   d. Employment

**Assignment**: Review the policies and resources available on UW-Madison’s OVC RGE website for Conflict of Interest and Outside Activities Reports

B (1). Human Subjects & Institutional Review Boards (ARROW System)

**Required Reading**: Macrina, Chapter 5

**Possible Lecturer**: Offices of IRB or ARROW

1) Refresher: Ethics of human subjects research

2) Advanced Consideration
   a. Approval of IRB protocols
b. How to write protocols and grant sections  
c. Safety monitoring  
d. HIPAA and patient privacy in clinical research  
e. ClinicalTrials.gov and reporting of clinical trials

**Assignment:** Review your lab’s IRB protocols; Read the relevant sections in your own grant(s) or the grant(s) funding your research

**B (2). Animal Research (RARC) Biosafety (IACUC)**

**Required Reading:** Macrina, Chapter 6

**Possible Lecturer:** Office of RARC

1) **Refresher:** Animal research  
2) **Advanced Consideration**  
   a. Approval of IACUC protocols  
      i. How to write protocols and grant sections  
      ii. Veterinarian involvement  
   b. Show protocols on-line

**Assignment:** Review your lab’s IACUC protocols; Read the relevant sections in your own grant(s) or the grant(s) funding your research

**B (3). Biosafety (IACUC)**

**Possible Lecturer:** Office of Biosafety

1) **Refresher:** Biosafety policies  
2) **Advanced Consideration**  
   a. Approval of Biosafety protocols  
      i. Approvals & Assessments  
      ii. How to formulate and evaluate risks and protections  
      iii. How to write protocols  
   b. Show protocols on-line

**Assignment:** Review your lab’s biosafety protocols; Read the relevant sections in your own grant(s) or the grant(s) funding your research

**C. Mentor-Mentee Relationships (Focus on the mentor)**

**Required Reading:** Macrina, Chapter 3; HHMI, Chapter 5

**Possible Lecturer:** Experienced mentor or someone from CIMER

1) **Refresher:** Mentor-mentee relationships  
2) **Advanced Consideration** of comparison of qualities of mentor/mentee roles and responsibilities  
   a. Boss / Spouse / Friend / Employee exercise  
   b. Qualities of boss-employee vs mentor-friend
c. How to mentor those in different career stages

D. Collaborative Research
Required Reading: Macrina, Chapter 8; HHMI, Chapters 11 and 12

Possible Lecturer: Experienced Faculty Member or Representative from Office of Industry Partnerships

1) Refresher: Collaborative research
2) Advanced Consideration
   a. How does everything fit together
   b. Advantages of collaborative research
   c. Potential pitfalls of collaborative research
   d. Avoiding pitfalls
   e. New areas to consider (i.e., mandatory data sharing (NIH))

Assignment: Review your lab’s collaborative agreements and contracts; Read the relevant sections in your own grant(s) or the grant(s) funding your research

E. Peer Review
Required Reading: Macrina, Chapter 4

Possible Lecturer: Faculty trainers

1) Refresher: Grant and journal review process
2) Advanced Consideration
   a. Grant study sections (NIH and NSF)
      i. Process
      ii. Conflicts
      iii. Scores
      iv. Section D – Program Officer letter
   b. Mock study session with sample R03 applications (emphasis on scoring)

Assignment: Review the peer review conflict of interest policies for your funding agency. Shortcuts provided for common biomedical funding agencies.
   USDA: <https://www.ams.usda.gov/sites/default/files/media/FMPPConflictofInterest.pdf>

F. Data Acquisition, Management, Sharing, Ownership
Required Reading: Macrina, Chapter 9; HHMI, Chapter 8

Possible Lecturer: Someone from IT or Program trainers

1) Refresher: Data
2) Advanced Consideration
   a. Best practices for data acquisition
   b. Best practices for data security
   c. Ensuring rigor and reproducibility
   d. Responsible use of and practices for public databases
   e. “Big data” and resources for analysis

Assignment: Review your lab’s data sharing plan(s); Read the relevant sections in your own grant(s) or the grant(s) funding your research

G. Research Misconduct and How to Handle
Required Reading: Macrina, Chapter 1

Possible Lecturer: Senior Faculty or Support offices experienced in handling misconduct

   1) Refresher: Research misconduct
   2) Advanced Consideration
      a. Review of campus safeguards
      b. “The Lab” simulation, utilizing senior roles and new perspectives

H. Responsible Authorship
Required Reading: Macrina, Chapter 4; HHMI Chapter 10

Possible Lecturer: Faculty Trainers

   1. Refresher: Authorship
   2. Advanced Consideration
      a. Thesis and copyright
      b. Appropriate authorship guidelines
      c. Traditional Journals vs Direct Publishing/Open Source Journals

H & I. Rigor and Reproducibility
Required Reading: NIH Site https://grants.nih.gov/reproducibility/index.htm

Possible Lecturer: Faculty Trainers

   1. Refresher: Principles of Rigor and Reproducibility
   2. Advanced Consideration
      a. Addressing Scientific Premise.
      b. Addressing Scientific Rigor
      c. Inclusion of sex as a variable
      d. Validation of Chemicals and Biological Agents- are the reagents what you think they are? Assay specificity?
I. The Scientist & Society

Required Reading: None - Current Affairs and Open Group Discussion

Possible Lecturer: Faculty Trainers

a. Public perception of research
b. Causes and consequences of sensationalizing data
c. Connecting with science and society
d. Social media interactions
e. Crowd-funding and direct publishing
<table>
<thead>
<tr>
<th>Date</th>
<th>Course Topics</th>
<th>Instructor</th>
<th>Discussants</th>
<th>Reading Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/06/2018</td>
<td>Conflict of Interest</td>
<td>Kurt McMillen, Kurt Zimmerman</td>
<td></td>
<td>M: Ch. 7</td>
</tr>
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<td>2/13/2018</td>
<td>Human Subjects</td>
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<td>M: Ch. 5</td>
</tr>
<tr>
<td>2/20/2018</td>
<td>Biosafety</td>
<td>Tara Schnell</td>
<td>Nancy Keller, Ted Golos</td>
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<td>2/27/2018</td>
<td>Vertebrate Animals</td>
<td>Ricki Colman</td>
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<td>3/6/2018</td>
<td>Data Acquisition, Management, Sharing, Ownership</td>
<td>Kristen Malecki</td>
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<td>3/13/2018</td>
<td>Mentor/Mentee Relationships</td>
<td>Ian Bird</td>
<td></td>
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<td>3/20/2018</td>
<td>Scientist and Society</td>
<td>Jo Handelsman</td>
<td>Joan Jorgensen</td>
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<td>3/27/2018</td>
<td>Spring Recess</td>
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<td>4/3/2018</td>
<td>Rigor &amp; Reproducibility</td>
<td>Donata Oertel</td>
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<td>4/10/2018</td>
<td>Research Misconduct</td>
<td>Brian Fox</td>
<td>Jon Audhya</td>
<td>M: Ch. 1, Ch. 11, Appendix VI</td>
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<td>4/17/2018</td>
<td>Authorship &amp; Peer Review</td>
<td>Manish Patankar</td>
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<td>4/24/2018</td>
<td>Collaborative Research</td>
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VI. Grading Policy

Graded Course Activities

<table>
<thead>
<tr>
<th>Points</th>
<th>Description</th>
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<tbody>
<tr>
<td>45 points</td>
<td>Attendance</td>
</tr>
<tr>
<td>45 points</td>
<td>Participation</td>
</tr>
<tr>
<td>90 points =100%</td>
<td></td>
</tr>
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</table>

Attendance, Participation and Absence Policy

This course is scheduled to meet 1 day per week for 90 minutes each session and weekly attendance will be taken. Topics in this course have the potential to generate and stimulate a robust discussion with many diverse points of view; you the student will benefit from active participation in large and small group discussion as in many situations there are no clear cut answers to the situations in the case studies. On occasion, additional readings are assigned to follow selected topics to help students see regulatory documents and policies in action; these additional readings are estimated to take 60 minutes per assignment.

Class Participation Expectations - Students are expected to have completed the required readings prior to the start of each class to refresh their knowledge on the day’s concept. These readings are estimated to take 30 to 60 minutes per class. While participants may be passionate about a particular point of view, discussion is expected to remain respectful of all individuals, levels of experience and area of scientific study.

The following guidelines will be used to assess participation for each class meeting.
Satisfactory: Students regularly provide substantive content that help the class as a whole to (1) consider alternative viewpoints; (2) connect ideas and concepts; (3) explore ways to assess and address ethical issues; and (4) apply course themes to real world practice. Students may provide this content by asking and answering questions, reflecting on case studies, and discussing course themes with classmates.

Unsatisfactory: Students rarely or seldom are able to provide substantive content.

Absences - Students are expected to notify the course coordinator by email at least one week in advance of planned absence. Failure to attend at least seven of the nine class meetings will results in an unsatisfactory grade.
Grade Assignment
This course will be graded as satisfactory / unsatisfactory:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Equivalent Percentage</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfactory</td>
<td>80 – 100%</td>
<td>Excellent Work, Nearly Excellent Work, and Good Work</td>
</tr>
<tr>
<td>Unsatisfactory</td>
<td>0 – 79%</td>
<td>Average Work, Below Average Work, and Failing Work</td>
</tr>
</tbody>
</table>

VII. Course Policies

Understand When You May Drop This Course
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