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Introduction

Welcome to the Molecular & Environmental Toxicology Program!

On behalf of all the faculty and staff, we are excited to have you as part of the Molecular & Environmental Toxicology Program. 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 camaraderie that you will feel with your peers. Science is not a spectator sport and this program will require a lot of effort on your part; however, when you are finished, 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
Mark Marohl, Student Services Coordinator, mdmarohl@wisc.edu
Barbara Lewis, Financial Specialist, balewis@wisc.edu
Eileen Stevens, Program Administration, emstevens@wisc.edu

This handbook provides basic information about the Molecular & Environmental Toxicology Program for graduate students, their advisors and major professors. Students are responsible for knowing the requirements of the program as described in this document.
## Important Dates

### Fall semester

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classes and laboratory rotations begin</td>
<td>W, September 2</td>
</tr>
<tr>
<td>Labor Day</td>
<td>M, September 7</td>
</tr>
<tr>
<td>Thanksgiving recess</td>
<td>R-N, November 26-29</td>
</tr>
<tr>
<td>Last class day</td>
<td>T, December 15</td>
</tr>
<tr>
<td>Exams begin</td>
<td>R, December 17</td>
</tr>
<tr>
<td>Exams end</td>
<td>W, December 23</td>
</tr>
<tr>
<td>Commencement</td>
<td></td>
</tr>
</tbody>
</table>

### Spring semester

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Martin Luther King, Jr., Day</td>
<td>M, January 18</td>
</tr>
<tr>
<td>Classes begin</td>
<td>T, January 19</td>
</tr>
<tr>
<td>Spring recess</td>
<td>S-N, March 19-27</td>
</tr>
<tr>
<td>Classes Resume</td>
<td>M, March 28</td>
</tr>
<tr>
<td>Last class day</td>
<td>F, May 6</td>
</tr>
<tr>
<td>Exams begin</td>
<td>N, May 8</td>
</tr>
<tr>
<td>Commencement weekend</td>
<td>F-N, May 13-15</td>
</tr>
<tr>
<td>Exams end</td>
<td>S, May 15</td>
</tr>
</tbody>
</table>

Days:  T Tuesday;  R Thursday;  S Saturday;  N Sunday
Your Health

Your health is of paramount importance to us.

You need to have insurance coverage. The three most common options include:
- Remaining on your parents’ coverage until you turn 26
- Signing up for the Student Health Insurance Plan (SHIP)
- Singing up for insurance through the University

As a funded graduate student, you have the option of signing up for the same type of coverage as faculty and staff. This must be done within the first 30 days of your appointment. If you would like it to be effective September 1, you must have the forms turned in by the end of Orientation Week.

The University has excellent Counseling Services. These are located at 333 East Campus Mall and offer a wide-range of counseling services. They can be reached at 608.265.5600.

If you are EVER having an issue that seems too big to handle alone, don't hesitate to visit anyone on our staff. We are happy to work with you to try to find the path to a solution.
**Terminology**

There are some terms that are used repeatedly, both in this document and in conversations with staff members. This section will cover some of the most common. Become familiar with them – you will hear them a lot.

**Research Advisory Committee (“Committee”)**

Your committee is a minimum five-person group that will advise you during your graduate career. This committee is very flexible; this should (and CAN) change as your project evolves. Members of your committee should be able to both provide advice and be someone that you are comfortable in going to for advice. Additionally, these members could serve as co-authors on your papers or references as you move on for positions in your future.

One member of your committee is your advisor.

Of your other four members:
- One must be from outside of your advisor’s home department (example: If your advisor is in Oncology, at least one member must a different department)
- One must be from outside of the Molecular & Environmental Toxicology Center
- These two requirements can be met by the same person
- If you are also working on a minor, at least one member must be from your Minor Program (this will serve as your “minor advisor”)

**Committee Meetings**

Committee meetings are a formalized opportunity for you to sit down with your advisory committee and discuss your project, your set-backs, and your progress. Additionally, it is a good time to seek advice on future directions and troubleshooting.

These meetings are **required** annually. Failure to do so can (and will) 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.

The Molecular & Environmental Toxicology Program has guidelines for the meetings. These will be found in year “Year” section of this handbook.

**IDP’s**

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.
At the present time, the program has two IDPs that it is recommending. The first is the one made by the American Association for the Advancement of Science (AAAS – “my IDP”; you can find this with a google search) and the second is one that has been developed in collaboration with the Collaborative Alliance and based upon different models. This is currently being used as the Progress to Degree form for committee meetings.

**Dissertator Status**

After completing the core curriculum and recommended electives, and both Preliminary Exam Part A and Preliminary Exam Part B, the signed warrant is returned to the Graduate School. The student is officially admitted to candidacy for the Ph.D. degree and has achieved “dissertator status.” All requirements for dissertator status must be met prior to the first day of classes to be considered a dissertator for that semester.

As a dissertator, each student registers for 3cr per semester until the research thesis is filed with the Graduate School. The Graduate School imposes a large fine if a 3cr course load is not maintained while a dissertator. The 3cr rule does not allow courses not related to research. Specific information on the calculation of this assessment can be obtained from the Graduate School Ph.D. Office.

**Training Grant**

A Training Grant is a grant that is sponsored by the National Institutes of Health agencies. It funds students as they are working towards completion of their degree. This is helpful for advisors, as it allows them to free up some money for other expenses. It also serves as a potential career booster; something that can be placed on your CV. The Toxicology training grant has been running for the past 38yrs. Further information can be found in the “Stipend, Tuition, and Fees” section on page 16.

**Hold on Registration**

A “hold” is placed on your registration by one of two places – the Graduate School, if you are in violation of one of their guidelines (Mark will do his best to keep you from most of those) or from the Tox Office, for failing to meet milestones. If you have a hold, you cannot register.

If you cannot register, you won’t get paid.

It’s really that simple.
Curriculum Requirements

Note: The Molecular & Environmental Toxicology Program is a PhD-first program; Masters guidelines will only be used in special cases.

University Policy dictates the minimum amount of coursework for the PhD and Masters tracks. The Molecular & Environmental Toxicology Program adheres to these requirements.

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.

All graduate students are required to take Toxicology 800 (Seminar) and 990 (Research, under your advisor’s section) every semester.

Doctorate

By University Policy, you will take 51 credits (cr) minimum of coursework, of which 26 will need to be “graduate school level.” Mark will assure that you will come in well over that number.

You should take 8-15cr as a predissertator (fall and spring) with 2cr during the summer. After you become a dissertator, you will take 3cr each semester until you graduate.

The Program requires you to take at least 20 didactic credits. (Didactic means actual courses, as opposed to Research credits.) Of these, 13 will be core credits and (at least) 7 will be elective. These electives should be chosen to fill in gaps in your learning or to give you background for your research. These should be selected with your mentor. If you are working on a minor, you will need to meet those requirements, as well. The course requirements for the minor can serve as the MET program electives.

We anticipate that your didactic courses (what is required to move towards dissertator status), will be done by the end of Year 2.

Masters (Thesis)

By University Policy, you will take 30cr minimum of coursework, of which, 16 will need to be “graduate school level.” Mark will assure that you will come in well over that number.

You should take 8-12cr (fall and spring) with 2cr during the summer.

You will be required to take 12 didactic credits. Of these, 9cr will be from core courses. The final 3cr should be discussed with your mentor and should give you either a “molecular” or an “environmental” focus. If you have questions, please send the METC Office a note indicating which course you would like to have count towards your elective credits. We also strongly encourage you to take the Responsible Conduct in Research course, OBGYN 955 (2cr) your first semester on-campus.

We anticipate that your didactic courses will be completed by Year 2 and that your defense will be either that summer or fall of Year 3.
Year 1

Fall
Congratulations! You’re here!!! Now what? Let’s find out . . .

Obligation – Lab Rotations
All students will rotate through three laboratories, learning techniques and getting a feel for how the lab runs. The first rotation will start on September 1. The next rotation will begin either October 1 or the first Monday after the 1st, to be worked out with your Rotation 1 & 2 mentors. The third rotation will begin either on November 1 or the first Monday after the 1st, to be worked out with your Rotation 2 & 3 mentors. The Appendix will have a copy of the letter that will be sent to both you, your current rotation mentor, and your upcoming rotation mentor about a week before the 1st.

You and your mentor should have an “exit interview,” where you discuss your research findings and impressions of the lab. This will also be a good opportunity for your rotation mentor to give you some feedback on your lab skills.

In addition to this exit interview, the program administrator will contact you and your mentor individually for some anonymous feedback, inquiring, above all else, if the mentor would consider taking you into his/her lab.

If it is immediately felt that the rotation lab will not work out, accommodations will be made to try to find a different lab for that month. Under no circumstances should you be without a lab.

Courses (8-15 credits)
Tox 625, Tox 634 (Odd Year), ObGyn 955, Tox 800, Tox 990 (Section 012)

Spring
By the beginning of the Spring Semester, you should be in a lab. From here on out, you will be working hard to complete your research.

Obligations – Complete Certification Form; Define your Research Advisory Committee

Courses (8-15 credits)
Tox 626, Tox 631, Tox 800, Tox 990 (advisor’s section), Elective?

Summer
Obligations – Meet with your Committee

First Year’s Committee Meeting Guidelines:
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:

1) The student should review classes (~5mins)
   a. What you took
   b. What you 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.

Courses (2 credits)
Tox 699, Tox 990
The Molecular & Environmental Toxicology Program does not have a Qualifying Exam to prepare a student for candidacy to the Preliminary Exam Part B.

In lieu of a Qualifying Exam, the requirement MET 699: Special Topics (1-3cr) will serve as a student’s final task. This course will consist of three parts:

1) Serve as a Teaching Aide for one of the MET core courses. This includes Tox 625, 626, 631, or 632-3-4.
   Note: Unlike a Teaching Assistantship (TA-ship), this is an unpaid position. As stated in our Training Grant, the teaching aide is a required part of your MET curriculum. Your mentor may ask if it is paid – it is not. If they have an issue, have them contact the Program Director, Christopher Bradfield.

2) The MET Writing Course, which will teach students the basics of creating posters, presenting to audiences, and, ultimately, writing an NIH-format proposal which will serve as a draft of your Preliminary Exam Part B. There are five 2 hour course periods mutually decided upon by the students and the professor.

3) Program Director review of the near-final draft of your preliminary exam proposal.

This course is for a grade. If a student does not complete the requirements in a timely manner, then s/he will not be able to advance towards candidacy.
Year 2

**Fall**

Obligation – 1st Committee Meeting, if you didn’t have it in the summer.

*Note: Know that, if you did not have a meeting in the summer, you will have a hold on your registration for the spring, which will remain until you complete this task.*

Courses (8-15 credits)
Tox 634 (Odd Year), Electives, Tox 800, Tox 990

**Spring**

Courses (8-15 credits)
Electives, Tox 800, Tox 990

**Summer**

Obligations – Meet with your Committee for your Preliminary Exam Part B

**Prelim Meeting Guidelines:**

This committee meeting is to achieve dissertator status. After you have completed all of your didactic requirements, you should consider having your next committee meeting be your prelim.

For this meeting, you will need to have a prelim warrant requested. Please contact Mark about this ~1mo in advance, so that he can request it 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 (2-4years from the date of your prelim).

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

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

* - This format will be covered in the writing course

About two weeks before your preliminary exam, you should send the members of your committee 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 and experiments (as based upon the preliminary exam document) (~15-20mins)
3) The committee should question the student to see how s/he responds and to identify how prepared they are to continue forward (not just with the research, but with the program itself) (~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.

Courses: Tox 990 (2 credits if predissertator, 3 credits the semester after Prelim B is passed)
Years 3-5

Note: It is expected that you take your Preliminary Exam by the summer of your second year. At the latest, you should complete it by the fall of your third year. You will then be a Dissertator.

Courses: Tox 800, Tox 990 (Once you have achieved Dissertator status, enroll for exactly 3 credits per semester, including summer)

Obligations – Meet annually with your committee.

Annual Committee Meetings
After you have achieved dissertator status, your annual committee meetings will fall along these lines:

1) The student will present and discuss their data (~20-30mins)
2) The student will present their structure for future directions (10-15mins)
3) The student should seek advice from his/her committee and receive any feedback regarding future directions (15mins)

These meetings should be between 45-60mins, it should be no more than an hour.

As you progress towards degree, Mark will begin asking you if the committee meeting that you are having is your “six month meeting.” It is the same as the regular committee meeting; however, one of the topics of discussion is whether or not you are ready to graduate in the next 6-9 months.

Basically, your “Six Month Meeting” is your last meeting with your committee before your defense. There is no added paperwork, just to make sure that you, your advisor, and your committee are all on board with you graduating “soon.”
Dissertation & PhD Thesis

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 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 Mark that you are thinking about defending, he will send you that link. This is another meeting where you will need a warrant; please let Mark know ~6weeks out when you are having your defense, so he can request that from the Graduate School.

Ideally, you will have your near-final draft completed between 2-4weeks 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” seminar, 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 pass, they will sign the warrant. They may require that you do some final experiments and / or revisions before submitting your dissertation.

After you have made any and all corrections, you will submit your dissertation to the Graduate School for final review. You will need to schedule a meeting for this. When your appointment arrives, they will go through the dissertation, review and take your signed warrant, and voila! you have completed all of your requirements – CONGRATULATIONS, DOCTOR!

Your dissertation will be sent away to a document house where, following a few months’ time, it will be available to the general public for viewing. If you have proprietary data or data that has yet to be published, you may request that a 1yr embargo be placed on the document. This will keep it from publishing. You will check this option when you are submitting the document via the on-line system.

If you would like it embargoed longer, you and your advisor must write and sign a letter saying that you would like it held for (up to) five years. This letter will be turned in with your warrant at your final review meeting.

Don’t worry, Mark will provide you this information repeatedly as you move forward with your degree.
Stipend, Tuition, and Fees

You will be funded during your time in the program. You will also have the option of health insurance through the University. (please note, office staff cannot give you any insurance advice) In addition to a recommended stipend of $25,000 per year, you will also receive tuition remission but you will need to pay segregated fees each semester.

The cost of tuition is paid by the Molecular & Environmental Toxicology Program your first semester and by the major professor for the duration of your time in Grad School. In 2015-16, the program recommends students receive stipends of $25,000 (pre-tax) to cover the cost of living expenses. After registering each semester, each student receives a bill for “segregated fees” reflecting the cost of educational services such as libraries, DoIT, recreational facilities, and student organizations. Segregated fees (for 2014-15) were $569 for non-dissertators and $220 for dissertators. You are responsible to pay these. If you do not, a hold will be placed on your record by the Graduate School.

If your mentor is short on funding, there are other options available to cover you during your time here.

Training Grant(s): The Molecular & Environmental Toxicology Program has a training grant. Students must be US citizens or permanent residents to be eligible. This will cover your tuition, stipend, and seg fees. Your research must focus on human health for you to be eligible.

There are also other training grants available on-campus; depending on your choice of mentor, you may be eligible for these.

Fellowship Grants: Depending on your (and your mentor’s) research, you may be eligible to apply for your own fellowship grants. The Department of Defense, American Heart Association, National Science Foundation, and National Institutes for Health all offer predoctoral fellowships. These are fantastic ways to find funding for yourself and look great on CVs.

Teaching Assistantships: Our goal is to have you become the best scientist, and the easiest way to do this is to spend as much time in the lab as possible. However, some labs may not have the funding available, but they do have access to teaching assistantships. If you really want to do the type of research that a lab offers, TA-ships are a way to have funding. The Molecular & Environmental Toxicology Center, unfortunately, does not have TA-ships to offer its students. Check with your potential mentor to see if he/she has access to TA-ships through his home department, and whether or not working as a TA would be part of the means of funding there.

With funding situations, at the federal, state, and even lab levels, always in flux, there is no set policy on how much to pay a student. Some people may join a lab that pays more than what the Tox Center recommends; others will join labs that pay less, but the research is so closely aligned to what they want to do, that the trade-off is worth it for them. This is something that you need to think about as you are doing rotations. No one can make that decision for you except you, and you alone.
Appendix

a. **Required Courses Checklist**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>When to Take</th>
<th>Taken?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicology 625: Toxicology 1</td>
<td>3cr</td>
<td>Fall, 1st Year</td>
<td></td>
</tr>
<tr>
<td>Toxicology 626: Toxicology 2</td>
<td>3cr</td>
<td>Spring, 1st Year</td>
<td></td>
</tr>
<tr>
<td>Toxicology 631: Toxicants in the Environment</td>
<td>3cr</td>
<td>Spring, 1st Year</td>
<td></td>
</tr>
<tr>
<td>Toxicology 634: Ecotoxicology</td>
<td>1cr</td>
<td>Fall, “Odd Year”</td>
<td></td>
</tr>
<tr>
<td>Toxicology 699: Preliminary Exam Part A</td>
<td>1-3cr</td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td>ObGyn 955: Responsible Conduct in Research</td>
<td>2cr</td>
<td>Fall, 1st Year</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 13 core-course credits, you will be required to take 7cr more of electives.

b. **Sample Letter to Faculty & Rotators**

(example from 2014)
Dear METC Rotators & Faculty:

This is to let you know that the first rotation will be concluding next week. Students and faculty should mutually agree on when the transition to the new lab should occur.

The students should start in their new (2nd rotation) lab between October 1st and (at the latest) October 6th (1st Monday).

We would highly encourage students and their first-rotation mentors to have a 20-30minute exit interview to discuss results and impressions of the lab. Remember, no offers can be made at this time (all students must do three rotations).

When the rotation has officially completed, the Tox Office will send each student and first-rotation faculty member a note, requesting an evaluation of the time in the lab.

If you have any questions, please don't hesitate to contact me.

Sincerely,
~Mark