



## Student Responsibility

Students in the Department of Pharmacology and Toxicology should use this handbook as a guide for use in conjunction with other sources of information from the Graduate School of Biomedical Sciences at the Medical College of Wisconsin, including the Graduate School Handbook found at the Graduate School website. **It is the sole responsibility of students to ensure that all requirements are fulfilled satisfactorily in a timely manner for degree completion.** t0BT/F2 12 Tf1q0P[ )]TJETQo2 0 612 6

**Section 1. Entrance into the Doctoral Program**

**A. Selection of a Dissertation Mentor**

Students enter into the Department of Pharmacology and Toxicology Graduate Program via the Interdisciplinary Program in Biomedical Sciences (IDP), the Neuroscience Training Program, or the Medical BDC-2285(rdisci)3(p)-3(l2519612 667.8 reW\* n-o)-3



**Mock proposal:** The written proposal is due no later than **May 1<sup>st</sup>** and must be given to committee members at least 2 weeks prior to the scheduled exam. The style of the proposal will conform to guidelines for NIH grant applications. The length will not exceed 4500 words (exclusive of figures, legends, and biography). Each mock proposal will be read and evaluated by all members of the examination committee.

**Examination committee:** The examination committee will be composed of five MCW faculty members including the student's thesis advisor. The committee will be assembled by the Program Director. The faculty will be chosen based on expertise and experience with the examination process. At least three of the faculty members will be primary faculty members in the Department of Pharmacology and Toxicology. The other two members may be faculty from other departments or with secondary appointments in Pharmacology. One of the primary faculty members will be selected by the Program Director to chair the committee. It is the chairman's responsibility to complete and submit the paperwork required to document the student's performance.









### **Section 3. The Dissertation Committee**

The purpose of the Dissertation Committee is to:

- 1) oversee the student's emerging dissertation research
- 2) mentor the student in course selection
- 3) address educational deficiencies noted by the student's mentor and during the qualifying examination.

Members of the Dissertation Committee must be approved by the mentor, the Program Director, and the Dean of the Graduate School.

#### **A. Mentor**

Students entering from the IDP, MSTP, and Neuroscience Programs must have a mentor with a primary or secondary faculty appointment in the Department of Pharmacology and Toxicology prior to acceptance in the Pharmacology Doctoral Graduate Program. Students who enter directly into the Pharmacology Program will select a mentor after the first year of laboratory rotations. The mentor advises the student about courses and supervises the dissertation research. The mentor chairs the Dissertation C

- 1) The dissertation advisor, who acts as the chairman of the committee.
- 2) At least three faculty members (and 50% of the committee) with a **primary** faculty appointment in the Department of Pharmacology and Toxicology. The chairman counts as one of the three if he/she is a primary faculty member from the Pharmacology Department.
- 3) One member must have neither a primary or secondary appointment in the Department of Pharmacology and Toxicology. This individual can be from any other MCW basic ima basic T912 0icalba( Fa)-4(cuETQq0.00000912 0 612 ,-21(b)-3(a)-3(si67.

evaluate the dissertation defense. The committee has the authority to recommend dismissal of a student who does not qualify for a PhD degree, based on the committee's evaluation of all components of the student's performance in the Pharmacology Doctoral Program.

The committee is charged with ensuring that each student's formal education has the proper breadth and scientific foundation. The committee should aid in the development of an outstanding, rigorous plan of advanced study in the core areas emphasized in the Pharmacology and Toxicology Department of cardiovascular biology, neuroscience, molecular pharmacology, cellular signal transduction, toxicology/drug metabolism, and cancer biology.

#### **Section 4. Annual Progress**

##### **A. Dissertation committee meetings**

One of the primary functions of the Dissertation Committee is to provide ongoing advice and guidance regarding the student's research and to monitor progress towards the degree. To ensure regular interaction, the student will be responsible for coordinating **two** meetings with the Dissertation Committee each year. These meetings will provide an opportuni

### **C. Readings and Research**

Full-time graduate students must register for *Readings and Research* (07295) every fall, summer, and spring until they successfully defend their dissertation research. Students who leave MCW before their dissertation defense should consult with the mentor and the graduate school to determine the appropriate procedure to remain eligible for a PhD.

Performance in *Readings and Research* is assigned a grade of E (excellent), G (good), S (satisfactory), or U (unsatisfactory). Due to the varying nature of the research experience across the different labs in the department, fixed criteria for grading students in *Readings and Research* cannot be established. Mentors will consider the following when assigning grades:

- 1) written research summaries
- 2) presentations to the department or dissertations committee
- 3) motivation and commitment of time to research
- 4) data management and record keeping
- 5) familiarity with literature
- 6) collegiality within the lab
- 7) ability to establish and meet pre-set deadlines and goals
- 8) lab skills and experimental design
- 9) communication skills
- 10) scientific honesty and integrity
- 11) research accomplishments and progress towards the dissertation

The mentor will consult with members of the dissertation committee and the Director of the Graduate Program if an evaluation of Unsatisfactory in *Readings and Research* is contemplated. If student performance is evaluated as Unsatisfactory, the basis for this grade will be stated in Progress Reports and/or communicated directly to the Graduate School Dean. A student who receives a second evaluation of Unsatisfactory during subsequent semesters of study will be recommended for dismissal.

It is expected that additional hours in the evenings and during the weekends will be required to complete studies outlined in the dissertation proposal and to prepare the dissertation document and defense. Students must adhere to the Vacation Policy established by the Graduate School. Vacation time does not accrue by working after

regular working hours. Students must also adhere to the Graduate School “Sick Leave Policy”.

Any student who has not finished their dissertation research by the end of 5 years should be reviewed by the Dissertation Committee to determine the reasons responsible for the delayed progress. At this time, actions must be identified during a discussion with the student and their mentor that will result in the student’s completing a Masters Degree or PhD degree as soon as possible. If the Committee can identify no solution, the student may be required to leave the program.

#### **D. Publication**

Learning to prepare research articles and experiencing the publication process are important aspects of graduate training. While not an official requirement, students should establish the goal to publish at least one primary research paper as the lead author prior to completion of the dissertation defense. The dissertation committee will provide guidance to the student with this goal in mind.

### **Section 5. Dissertation Proposal**

The dissertation proposal should provide a description of the proposed research to be undertaken, including the specific hypothesis to be tested, background, and experimental design. The purpose of the proposal is to ensure that the student, advisor, and Dissertation Committee agree on a research project that has potential to generate meaningful data within a reasonable time-frame. The student will discuss with the mentor potential areas of research and agree upon a reasonable hypothesis to be tested, the overall scientific objectives, and experimental design that will be used. The mentor should discuss with the student alternative hypotheses and approaches prior to discussion of the abstract with the dissertation committee. It is understood that the proposed dissertation research may be modified significantly or abandoned if so recommend by the Dissertation Committee, or as a consequence of future developments of the student’s doctoral research.

#### **A. Deadlines**

**Direct entry, IDP, and Neuroscience Students.** The dissertation proposal should be submitted to the Dissertation Committee by **May 1<sup>st</sup>** of the student’s 3<sup>rd</sup> year. The committee should have 2 weeks to review the proposal before meeting to discuss the

proposal with the student. The student should meet with the committee by **June 1<sup>st</sup>** (at the end of the student's 3<sup>rd</sup> year) to discuss the proposal. If the Dissertation Committee requests that the proposal be revised before it can be accepted, the deadline to submit a revision to the committee is September 1<sup>st</sup>



**D. Evaluation of the Dissertation Proposal**

The dissertation proposal will be evaluated no later than 4 weeks after the proposal is submitted to the Dissertation Committee. For this evaluation, the student will present an overview of the proposal and address any questions or concerns of the committee members. The committee will evaluate the proposal with respect to:

1. the hypothesis – is it appropriate and based on existing data
2. the experimental design – will the proposed experiments provide a thorough test of the hypothesis, are necessary controls included, and are alternative approaches described
3. the significance and innovative aspects of the project – has the student provided a strong enough argument that the project is novel and addresses an important problem
4. preliminary data – has the student demonstrated the ability to conduct the experiments, analyze the results, and formulate appropriate conclusions

**E. Advancement to Candidacy**

Acceptance of the dissertation research proposal is required for advancement to candidacy for the Ph.D. degree. The Dissertation Committee will identify any potential problems or weaknesses with the dissertation proposal and will evaluate the ability of the student to conduct the proposed experiments, obtain the required data, interpret the results, formulate conclusions based on the experimental results, and propose subsequent experiments. These skills are essential for completion of the dissertation research that is a required component of the graduate program in the Department of Pharmacology and Toxicology. It is the responsibility of the committee to determine whether the student has the necessary skills, motivation, and knowledge to complete the dissertation research, and if not, what course of action should be taken. The mentor will convey the evaluation and the recommended course of action of the Dissertation Committee to the Program Director as well as the Dean of the Graduate School of Biomedical Sciences. The committee shall either:





**F. Modifying the Dissertation Research Proposal**

During the course of the dissertation research, it may be necessary to modify or change the hypothesis to be tested or the specific aims of the research. These changes should be discussed with the entire Dissertation Committee.

**Section 6. Dissertation Defense**

Candidates in the Pharmacology Graduate program must present broad-based evidence of proficiency in research and of distinctive achievement in a special field, and particularly for independent investigation as demonstrated by the dissertation. The dissertation should comprise a substantial body of original research representing the student's own laboratory work. Any collaborative components of the research, other than that of the mentor, must be identified and the student's contribution clearly delineated. The dissertation must be written with a high-level of literary skill such as would be expected in leading journals specific to







**Deadlines for MSTP students who enter the Pharmacology Program July 1st**

	<b>Year</b>	<b>Semester</b>	<b>Month/Day</b>	<b>Month</b>
<b>Form Dissertation Committee</b>	<b>1</b>	<b>Spring</b>	<b>January 1<sup>st</sup></b>	<b>6</b>
<b>Qualifying Exam</b>				
<b>Submit Abstract</b>		<b>Spring</b>	<b>February 1<sup>st</sup></b>	<b>7</b>
<b>Submit Proposal</b>		<b>Spring</b>	<b>May 1<sup>st</sup></b>	<b>10</b>
<b>Oral Defense</b>		<b>Spring</b>	<b>May 30<sup>th</sup></b>	<b>10</b>
<b>Submit Dissertation Proposal to Dissertation Committee</b>	<b>2</b>	<b>Spring</b>	<b>April 1<sup>st</sup></b>	<b>21</b>
<b>Evaluate Dissertation Proposal with Dissertation Committee</b>	<b>3</b>	<b>Spring</b>	<b>May 1<sup>st</sup></b>	<b>22</b>
<b>If necessary, Submit revised Dissertation Proposal</b>	<b>3</b>	<b>Summer</b>	<b>August 1<sup>st</sup></b>	<b>25</b>