

Graduate Program in Toxicology and Cancer Biology

(M.S. and Ph.D.)

Graduate Student Handbook

Revised June 2023

The following is intended to serve as a guide for graduate students in the Department of Toxicology and Cancer Biology (DTCB). The Graduate School Bulletin should be consulted for detailed procedures and regulations not discussed in this document.

Table of Contents

I.	University (Graduate School) Academic Standards	3
A.	Responsibilities of Director of Graduate Studies	3
B.	Academic Requirements of Students.....	3
II.	Departmental Graduate Program Policies on Graduate Student Admission	4
A.	Direct Admission	4
B.	Admission Through Integrated Biomedical Sciences (IBS) or M.S. in Medical Science	4
C.	Transfer students	4
D.	Admission Requirements for M.S. and Ph.D.....	5
III.	Departmental Graduate Program Policies and Procedures on Graduate Student Placement and Funding	5
A.	Philosophy.....	5
B.	Procedures	5
IV.	Departmental Graduate Program Policies and Procedures on Graduate Student Performance.....	8
	Graduate Program Evaluation Form of Doctoral Student	12

V.	Student Reminder List.....	14
A.	Laboratory Rotations	14
B.	Doctoral Degree Candidate Forms.....	14
C.	Formation of Doctoral Advisory Committee.....	14
D.	Committee Meetings	15
E.	Scheduling the Qualifying Examination	15
F.	Notification of Intent to Schedule a Final Doctoral Examination (NOTIF)	16
G.	Publication	17
H.	Request for Final Doctoral Examination	17
I.	Graduate School Procedures for Conducting the Final Examination.....	17
J.	Submission of Dissertation	18
K.	Request for Graduation	19
VI.	Additional Important Information	19
A.	Holiday & Leave Policy	19
B.	Sponsored Student Travel.....	19
C.	Graduate Student Academic Staff Forms (GSAS).....	20
VII.	Tuition.....	20
VIII.	References	20
IX.	Procedures for Terminating a Graduate Student from a Current Research Assistantship.....	22
X.	Procedures for Nonrenewal a Graduate Student to a Research Assistantship in the Doctoral Program.....	24
XI.	Procedures for Terminating Graduate Students from the M.S. or Doctoral Programs.....	25
XII.	Tuition.....	27
XIII.	References	27
	Appendix A Guidelines for the Ph.D. qualifying exam.....	29
	Appendix B Employment and Academic Time Investment Expectations of the Major Advisor and Their Doctoral Students.....	33
	Appendix C AAMC Compact Between Biomedical Graduate Students and Their Research Advisors.....	37

Part I

I. University (Graduate School) Academic Standards

A. Responsibilities of Director of Graduate Studies

The **Director of Graduate Studies (DGS)** reports directly to the Dean of the Graduate School or to that Dean's designee on all matters relating to graduate education in the program. The DGS is responsible to the Dean of the Graduate School for the administration of the specific graduate program, including maintenance of records, administration of graduate program funds, admission of graduate students, any affiliated University Scholars Program, fellowships, program requirement changes and new programs, advising and registration, appointment of advisory and examination committees, and other degree requirements related to the graduate program. Additionally, the DGS serves as the focal point for dissemination of information from the Graduate School.

The DGS serves as program advisor to each student until the student has a Major Advisor. The DGS then recommends that the Major Advisor is appointed as the thesis or dissertation director and appointed as Chair of the Advisory Committee. All student schedules for courses that are a part of the degree curriculum must be endorsed by the student's advisor. The DGS in the student's major program should be consulted concerning course requirements, any deficiencies, the planning of a program, and special regulations. (Graduate Bulletin Page 13, 26).

The **Department Chair** has responsibilities for decisions on financial and resource support, as described below.

Except where otherwise specifically stated, the provisions of this Handbook apply to both M.S. and Ph.D. students.

B. Academic Requirements of Students

Doctoral students must register for a minimum of 9 credit hours each semester to be considered full-time until the semester the student takes the qualifying exam. After the semester the doctoral student takes the qualifying examination, they must register for 2 credit hours of TOX 767, post-qualifying exam residency credit, to be considered full-time (Graduate Bulletin Page 36). International students must maintain full-time status during enrollment in the program except under specially approved circumstances. The Graduate Bulletin provides additional information on enrollment requirements for graduate research M.S. students.

If students have completed 12 or more semester hours of graduate course work with a cumulative GPA of less than 3.00, they will be placed on "scholastic probation." Students will have one full-time semester or the equivalent (9 hours) to remove the academic probation by attaining a 3.00 cumulative

GPA. If probation is not removed, students will be dismissed from the Graduate School (and hence are dismissed from the graduate program and from Research Assistantship). Students who have been dismissed from the Graduate School for this reason may apply for readmission to the Graduate School and the degree program after two semesters or one semester and the summer term. If they are accepted for readmission by the degree program, readmitted students will have one full-time semester or the equivalent (9 hours) to remove the academic probation by attaining a 3.00 cumulative GPA. Exceptions to this policy can be made only by the Dean of the Graduate School. Students placed on scholastic probation are not eligible for fellowships or tuition scholarships (nor out of state tuition support) and may not sit for doctoral qualifying or final examinations, or master's final examinations (Graduate Bulletin, March 2019, Page 29).

II. Departmental Graduate Program Policies on Graduate Student Admission

A. Direct Admission

For students specifically interested in a Ph.D. in Toxicology and Cancer Biology, direct application and admission to the Toxicology and Cancer Biology doctoral program offers several opportunities.

(Direct Admission to the program offers the opportunity for students for a full spectrum of research in programs related to biomedical toxicology and cancer biology).

For students specifically interested in a M.S. in Toxicology and Cancer Biology, direct application and admission to the Toxicology and Cancer Biology M.S. program is available.

B. Admission Through Integrated Biomedical Sciences (IBS) or M.S. in Medical Science

For students who are not certain of their desire for a M.S. or a Ph.D. in Toxicology and Cancer Biology, admission through the IBS program offers the opportunity to consider research programs in one of six departments participating in IBS, including the Department of Toxicology and Cancer Biology (DTCB). For further information about admission to IBS, please visit the IBS website. Transfer from the IBS program to DTCB must be approved by the department Chair and DGS of the DTCB. The Chair and the DGS may consult with the Admission's Committee on specific cases as needed.

Students enrolled in the M.S. in Medical Science program may apply to the Ph.D. program. Consult with the DTCB DGS for more information.

C. Transfer students

Approval. Transfer into the DTCB PhD program from another program other than IBS requires the approval of the Chair, DGS and the Graduate Research Degree Admissions Committee of the DTCB.

Transfer of prior credit towards DTCB Graduate Research Programs. Requests for transfer of credits from other graduate programs must be made to the DGS who will evaluate the applicability of the prior graduate work to the DTCB program and then forward a request for a waiver to the Dean of the Graduate School for final approval.

D. Admission Requirements for M.S. and Ph.D.

Applicants must meet the following requirements for admission to the University of Kentucky Graduate School and the Toxicology and Cancer Biology M.S. and Ph.D. programs.

1. An appropriate degree (e.g., Chemistry, Biological Sciences or other relevant scientific degree) from a college or university that has been accredited by an appropriate body approved by the University of Kentucky.
2. A minimum grade point average of 3.0 on a 4.0 scale for the doctoral program and 2.75 on a 4.0 scale for the Master of Science.
3. The General Graduate Record Examination is not a requirement. However, in certain circumstances students may be encouraged to strengthen their application by submitting their results from the General Graduate Record Examination (GRE) score on the verbal, quantitative and analytical sections.
4. For international applicants, the minimum acceptable TOEFL score is 550 (paper-based), 213 (computer-based), or 79 (internet-based). The minimum IELTS score is 6.5.

Applicants with lesser qualifications will be accepted only if other indices of performance and qualification are outstanding. Examples of appropriate indices include particularly outstanding GPA or GRE scores, or significant academic research experience.

III. Departmental Graduate Program Policies and Procedures on Graduate Student Placement and Funding

A. Philosophy

Each student entering the DTCB M.S. or Ph.D. graduate program will be provided the opportunity to assess how well his/her career interests match those of the existing DTCB graduate program faculty who are accepting graduate students. The selection of the student's "Major Advisor" for the research project is probably the most important decision the graduate student will make during his/her graduate studies. Therefore, the following guidelines are meant to clarify the student placement process within the DTCB graduate program, with due consideration of funding availability in the Ph.D. program.

B. Procedures

1. Each first-year doctoral student enters the DTCB graduate program without formal assignment to a Major Advisor. This requirement may be waived if a student identifies and is supported (see section 3.a below) by an agreeing Major Advisor when they enroll in the program. This circumstance must be approved by the DTCB graduate research degree program Admissions Committee with input from the department chair.

The DGS advises each entering M.S. student and as the student progresses through the program they choose an advisory committee according to the rules of the Graduate School.

2. The DGS will initially advise the doctoral student during year 1 until an advisor is identified and assigned by July 1 (the first day) of year 2, or for students joining the program off cycle the first day of their corresponding year 2 (the DGS will identify to each 'off-cycle' student and what date starts their respective year 2). The responsibilities of the Director of Graduate Studies will include the following:
 - a) Advise the student about coursework.
 - b) Advise the student to (i) meet with, and (ii) schedule by written agreement, 3 laboratory rotations with faculty who are members of the DCTB graduate program with apparent compatibility with the general interests of the student and who are accepting students. These rotation supervisors may be either core faculty of the DCTB or faculty of other departments and colleges who have an appointment to the DCTB graduate program. Note: The DGS must periodically review and evaluate the student's progress in the first-year rotation experience. See also section V.A. below.
 - c) Supervise selection of a Major Advisor. By the end of the student's third rotation unless a fourth rotation is needed, the student must have selected an agreeing Major Advisor who will be the responsible immediate supervisor of the student. Failure of the student to select an agreeing Major Advisor will jeopardize the student's financial support for stipend, tuition, insurance and additional fees. Additional rotations beyond the 3-4 or permission to enter the second year without having established a Major Advisor, are at the discretion of the Department Chair and the Director of Graduate Studies.
 - d) Perform all other duties assigned by the policies and rules of the University Graduate Faculty or by the Dean of the Graduate School.
 - e) Ensure compliance of practices of the DTCB graduate program with Administrative Regulation AR 5:2., the University Senate Rules, the rules and policies of the Graduate School, and the DTCB department rules.
 - f) Ensure scientific rigor and research integrity is maintained at all times.
3. Funding
 - a) Unless otherwise stipulated in writing by the Chair of the DTCB, the DTCB will be responsible for the full stipend (currently \$30,000 per year), health insurance, fees and program tuition support of all first-year doctoral students until they officially join the laboratory of the Major Advisor. First year students will be fully supported by the Major Advisor when they select an agreeing Major Advisor either (i) upon entrance or (ii) later after entrance into the program.
 - b) The Major Advisor will be responsible for providing the following as long as the doctoral student is in good academic standing:
 - An appropriate laboratory environment for the student and full appropriate financial and intellectual support for the student's project.
 - Stipend, health insurance, fees and program tuition support for the student after they officially join the laboratory.

c) Graduate Student Employment/Pay Status as “Research Assistant”

Students in the DTCB PhD program generally earn their stipend through Research Assistantships but may also be funded under; Graduate Teaching Assistantships, Graduate School Fellowships, U.S. government funded awards (such as NIH NRSA mechanisms), or funding by external government (international students).

The legally controlling University-level Administrative Regulation ([AR 5:2](#)), establish that the personnel status of a graduate student regarding their employment pay mechanism includes the category “Research Assistant”: “Research assistants” means graduate students who are employed to assist with faculty research.

The specific requirements to receive the pay/stipend will depend upon the particular mechanism of the particular student.

- DTCB Research Assistantship (maximum 20 hours per week)
- Graduate Teaching Assistantship (maximum 20 hours per week)
- Graduate School fellowship (depends on fellowship)
- U.S. government funded award (depends on the award)
- Funding by external govt (international students); (depends on the award)
- Other employment/stipend funding mechanism (depends on the award)

For those mechanisms that depend on the specific type of award, the student should ask the Major Advisor as to the applicable hours per week policy.

NOTE: Many faculty choose to (but are not required to) consider student training/research directly contributing to a student’s own thesis project as also fulfilling the Research Assistantship requirement “to assist faculty with research.”

(See also References Section of this Handbook)

d) As in a) the DTCB will be responsible for financial support of the doctoral student in good academic standing under the unforeseen circumstance that the Major Advisor is unable to provide that financial support. (See also Part II of this Handbook).

e) Students may be admitted into the DTCB M.S. program without any financial support. However the student must be fully informed of his/her financial responsibilities, including possible payment of out of state tuition.

f) No student will be admitted to the Ph.D. program without financial support from the DTCB program, from a DTCB Major Advisor, from his or her home government, or from other scholarships that they bring, unless expressly approved by the Department Chair and DGS.

IV. Departmental Graduate Program Policies and Procedures on Graduate Student Performance

- A. The doctoral and MS students and the laboratory rotation supervisor must submit to the DGS the DTCB rotation evaluation form within 7 days of completing the laboratory rotation. See also V. below.
- B. Doctoral students are allowed only once during their degree program for either of the following to occur:
- (1) a grade lower than a "B" in a credit-bearing activity (class, seminar, or laboratory)
 - or
 - (2) a grade of "Unsatisfactory" in TOX 767.
- If either (1) or (2) occurs a second time (in any combination of (1) or (2)) then the student will be considered for termination from the degree program in which the student is enrolled. See also IV.I. below.
- C. A doctoral student receiving a grade of E in a single semester will be considered for termination from the degree program in which the student is enrolled.
- D. Any student remaining on scholastic probation by the Graduate School for two consecutive semesters will be terminated from the degree program in which the student is enrolled (see Part I.B).
- E. All post qualifying doctoral students must give a yearly seminar to the department in DTCB seminar course or presentation to the department as part of the TOX 767 residency credit. Students at the end of 1st year present a 10- 15 minutes talk on their research from laboratory rotations during the Friday trainee talk.
- For students in their second year there is no seminar/short talk requirement due to the qualifying exam.
Students in their third year present a 25-minute talk at the Friday trainee talk.
- Students in their 4th year present a one-hour regular seminar in the DTCB TOX 770 seminar course.
- In their 5th or final year there will be no additional seminar but instead will present a dissertation defense seminar.
- F. Doctoral students must have at least one advisory committee meeting each year beginning with the second year. Together, the student and Major Advisor must complete and submit to the DGS the evaluations from each of the committee members using the required DTCB Graduate Program Evaluation Form (see copy of form below). The Major Advisor is responsible for ensuring the timely submission of the evaluation form to the DTCB graduate program office (HSRB 306), and append with it the Biosketch the student submitted for the advisory committee meeting. The submitted documentation will be included in the Student Progress File.

Each year the student will request his/her Graduate Progress Form from the DTCB Graduate Program office which will include the information in IV.F. The form must be updated and returned for input into a computer database. This database will be used to evaluate progress toward the degree, to accurately complete periodic forms submitted to the Graduate School, etc.

Student Progress Files will also be used by the DTCB Education Committee to programmatically evaluate program patterns of student progress.

G. Student's Progress File. Each M.S. and doctoral student must submit annually to the DTCB Graduate Program office an updated biosketch. The biosketch must include the following information:

- Manuscripts in preparation
- Manuscripts submitted (note whether first or co-first author or other contributing author)
- Papers published in peer-reviewed scientific journals (note whether first author or other contributing author)
- Scientific meeting abstracts (note whether peer reviewed)
- Scientific meeting oral and/or poster presentations
- Academic awards
- Any other information concerning scholastic (curricular) and research progress towards the degree that the student wants to include.
- Courses and Grades
- Status of the Qualifying Exam (passed, failed or prequalifying)
- Year in program since admission
- Major Advisor
- Committee Members

The DTCB will retain the updated Biographical Sketch for each student. In addition, contemporaneously updated copies of the student's biographical sketch must be provided to the advisory committee at each meeting.

At the end of each academic year, each student will submit to the DGS by June 1 a form (provided by the DTCB office) that provides for student entry of each informational item above into the form.

H. The DTCB graduate program requires the student to maintain a level of scholastic performance and research productivity that meets standards of the Graduate School and is satisfactory to a majority of the student's Advisory Committee. Failure to meet any of these requirements is grounds for consideration of termination from financial support and/or from the Master of Science or Doctoral program. (See PART II, below). For example, if a student's committee has 4 members and the student receives an unsatisfactory evaluation from two committee members, then they have not satisfied the majority of their committee which would require 3 members to provide a satisfactory evaluation.

I. Assessment of Good Academic Standing for Doctoral Students. The Department of Toxicology and Cancer Biology expects its graduate students to perform above the minimal standards set by the Graduate School, the DTCB program and the university. Specifically:

1. Doctoral students are allowed only once during their degree program for either of the following to happen:

- (1) a grade lower than a "B" in a credit-bearing activity (class, seminar, or laboratory)

or

- (2) a grade of "Unsatisfactory" in TOX 767.

If either (1) or (2) occurs a second time (in any combination of (1) or (2)) then the Major Advisor and the Advisory Committee need to consider termination of the student from the degree program in which the student is enrolled. The DGS shall examine the transcript grades for each student at the end of each semester.

A student cannot receive a grade of E in any semester. If a student receives an E then they will be considered for termination from the program.

If a student receives an unsatisfactory progress evaluation report from an Advisory Committee meeting then the student may also receive a course grade of Unsatisfactory if they are enrolled in the residency course TOX 767. (See "Graduate Program Evaluation Form of Doctoral Student").

The student's Major Advisor submits the grade for TOX 767. If the Major Advisor submits a grade of Unsatisfactory, then the Major Advisor shall provide to the student (with copy to student file) a written statement describing how the student has not rendered a performance that satisfactorily meets the expectations described in this Handbook.

2. All post-qualifying doctoral students must give an annual seminar or presentation to the Department on their research progress.
3. Each doctoral student's progress toward the degree will be reviewed (at least) annually by the doctoral advisory committee. Students will be informed in writing of the results of that meeting by the chair of the advisory committee (i.e., the Major Advisor). The advisory committee's written evaluation of student progress toward the degree will be kept in the Student Progress File maintained by the DTCB graduate program office.
4. If a student receives an unsatisfactory evaluation from their committee meeting, they must schedule a subsequent meeting within approximately 3 months. If they receive another unsatisfactory evaluation they will be considered for termination from the program and /or their Research Assistantship as described in Part II of this document.

J. Assessment of Good Academic Standing (Scholastic and Research) for M.S. Students

M.S. students will be assessed in accordance with the standards of the graduate school.

- K. The opportunity of a student to exercise in the future a "repeat option" for a course (Senate Rule 5.3.2.2) does not delay any of the decisions or consequences described in this Handbook that arise from receiving any particular grade in any particular course.

In all situations in which a student receives notification of termination from the program and/or their Research Assistantship, as described anywhere in this handbook, they may appeal pursuant to the procedures described in Part II.

See also: https://www.uky.edu/regs/sites/www.uky.edu/regs/files/files/ar/priors/ar_5-2_2018_final.pdf

Files Referenced in Section IV

- Student Progress File

Documents Referenced in Section IV

- Biosketch
- Graduate Program Evaluation Form
- Graduate Progress Form

Graduate Program Evaluation Form of Doctoral Student

Committee Member Name:

Date of Previous Advisory Committee Meeting

Date:

Expected Date of Graduation

Student:

Major Advisor:

Individual Development Plan completed or not completed. Y/N

Student Scholastic (curricular) Standing: Please circle Satisfactory or Unsatisfactory:

For each of items 1-3, rate and circle the student's skills as excellent, good, needs improvement, or inadequate and include appropriate additional comments.

1. Ability to master and critically analyze literature related to the project.

Rating: excellent, good, needs improvement, or inadequate

Comments:

2. Ability to formulate relevant, testable hypotheses, devise clear experiments for addressing hypotheses, and analyze and interpret data appropriately. Demonstrate adequate understanding of scientific principles and rigor.

Rating: excellent, good, needs improvement, or inadequate

Comments:

3. Ability to orally communicate data and interpretation effectively, answer questions, and convey ideas.

Rating: excellent, good, needs improvement, or inadequate

Comments:

4. Rating of Overall Student Scholastic and Research Progress – Please circle Satisfactory or Unsatisfactory:

Comments:

5. Summary of Committee Meeting. Each committee member: Summarize your determination of the progress toward the degree of the student in the past year, in accomplishing the goals set at the previous committee meeting. This summary must include identifying positive progress and identifying where progress has not been sufficient.

6. TO BE FILLED OUT BY MAJOR ADVISOR: Summarize the advisory committee's progress goals to be accomplished by the student before the next meeting. If the committee has made a finding of "Unsatisfactory" progress toward the degree, this finding must be expressly stated in Item 6. Satisfactory of Unsatisfactory (please circle only one)

7. To be submitted as part of the Major Advisor's Evaluation
Student Comments:

Signatures:

Major Advisor -----

Student -----

V. Student Reminder List

A. Laboratory Rotations

Laboratory rotations are designed to familiarize each student with different laboratory environments and scientific foci. During the first year in the program, each student will complete 3 rotations lasting approximately 7-8 weeks each. Each student will be first informed of faculty who currently have sufficient funding and an opening. Then each student must contact faculty and arrange to meet with them. The first two rotations should be explored as soon as possible after the DTCB student orientation and the first should begin no later than the beginning of the fall semester. A rotation evaluation is completed by the rotation mentor and discussed with the student at the completion of the rotation. Each rotation evaluation must be submitted by email to the DGS and the DTCB office at the completion of the rotation. It is the student's responsibility to notify the DGS when the rotation will be completed and to remind the rotation mentor to submit the evaluation form. The form is included in this document.

The following policies apply when the source of student financial support is the DTCB or Major Advisor. For 1st year students, the DTCB will pay until a Major Advisor is officially chosen. For directly admitted students that join without any rotation, the Major Advisor's financial commitment starts when the student's stipend begins. Students are encouraged to make a final decision on selection of a Major Advisor by the end of the third rotation. In some cases, students quickly decide to stay with the rotation mentor as the Major Advisor after the first or second rotation. In such cases the rotation mentor who has become Major Advisor will be required to cover the stipend immediately upon the student officially joining that Major Advisor's lab. An additional 4th rotation may be scheduled upon review by the DGS and the previous three rotation mentors.

2023-2024 Rotation Schedule			
ROTATION	ROTATION DECISION DUE	ROTATION DATES	ROTATION EVALUATION DUE
Fall 1	Monday, August 21	August 21 – October 13	Friday, October 20
Fall 2	Friday, October 13	October 23 – December 15	Friday, December 20
Spring 1	Friday, December 15	January 8 – March 1	Friday, March 8

B. Doctoral Degree Candidate Forms

In addition to coursework and research, there are several important issues that must be addressed in order to complete all requirements for the doctoral degree. This will involve the submission of a number of forms to the Graduate School, many at very specific time points. After logging into the student's personal page at the bottom of the screen, each student will be able to complete and submit the required forms on-line. Pressing the "submit" key will transmit the form to the DGS who will review it and forward it to the Graduate School. Each student will receive e-mail notification when the request has been approved.

https://ris.uky.edu/cfdocs/gs/DoctoralCommittee/Selection_Screen.cfm

C. Formation of Doctoral Advisory Committee

1. Toward the completion of the first year of study, by June or sooner, each student should consider who they would like to have on their advisory committee. Each student discusses this with their Major advisor and even other students. The committee will administer and decide whether the

student passes the qualifying exam, provide advice and evaluate the student's progress throughout the program after the first year, and ultimately approve the dissertation and defense. Students may also decide to ask them to provide references for postdoctoral positions or job applications. Hence, these are important decisions. The advisory committee should be formed no later than August 15, the beginning of the second year.

2. Each student should have a committee meeting before the fall semester of the second year. During this meeting the student needs to begin a discussion of the topic and specific aims page for their mock grant application for the qualifying exam. The student will begin working on this in the TOX 770-002 class during the fall semester
3. Composition of the committee: The committee must have at least 4 faculty which includes the Major Advisor. Three members are required to be members of the Graduate Faculty of the Toxicology and Cancer Biology program. One member is required to be from outside the department meaning they cannot hold a graduate appointment in the department. If the committee has a total of 4 members, 3 of the 4 members are required to have Full Membership in the Graduate School which usually means they are an Associate or Full Professor. Assistant Professors are usually Associate Members. If two Associate Members of the Graduate School are on the committee then 5 total members are required. All committees have a chair and this is usually the Major Advisor. Also, if the Major Advisor is an Assistant Professor (Associate Member), they will need a Co-Chair that is at the level of Associate or Full Professor.

Use the link below to identify graduate faculty associated with the DTCB.

<https://ris.uky.edu/cfdocs/gs/dgsgradfac/>

4. The Major Advisor and advisory committee should be formally appointed by the Graduate School by August 15, the beginning of the second year of study. This will require completion of the "Doctoral Advisory Committee Request" form. A student should make every effort to maintain the same committee composition throughout his or her tenure as a doctoral student. Should a change be necessary, for example when additional scientific expertise is needed or a committee member leaves the university or retires, a formal request must be made to and approved by the Graduate School. To do this a student must complete a "Doctoral Advisory Committee Modification Request" form which is also available after log in.

D. Committee Meetings

It is required that each committee meeting be documented using the Graduate Program Evaluation Form. Prior to each committee meeting, the student must notify the DGS and department education coordinator by email of the scheduled date of the meeting. After the meeting, each of the committee members will complete an evaluation form, and within 3 days the Major Advisor must collect the forms and submit them and the updated biosketch by email to the departmental office. A copy of the form is included in this document.

E. Scheduling the Qualifying Examination

1. At a minimum, each student must complete the equivalent of two years of residency (36 graduate credit hours) to be eligible to sit the qualifying examination. The request to schedule the qualifying

examination must be submitted by form to the Graduate School a minimum of two weeks in advance of the planned date.

2. During the June of the second year, each student will be working on revising and finalizing the NIH style grant application that they will submit for the qualifying examination. The guidelines are included in this document. The final version is submitted to each committee member and the DGS on or before June 1. After completion of the spring semester of year 2, each student must submit the request to the Graduate School to schedule their qualifying exam and the student must take the qualifying exam in June. In addition, the Student Forum hosts practice sessions for students to present their proposal and answer questions and each student should participate in these sessions.
3. An oral examination is required by the Graduate School, so the following rules apply: A request to schedule the Qualifying Examination should be submitted to the Graduate School at least two weeks prior to the date of the examination. Before scheduling the Qualifying Examination, all requirements for the degree should be completed (except the final exam and dissertation.) Students with “I” grades or “S” grades or “U” grades in credit-bearing courses will not be allowed to sit the Qualifying Examination until letter grades are assigned for these courses.
4. The Qualifying Examination card will be sent electronically to the DGS and the Major Advisor prior to the date of the examination. No exam should commence without a card. All members of the Doctoral Advisory Committee must be present at the oral qualifying examination. The results of the examination must be reported by the DGS to the Graduate School within 10 days of its conclusion. A majority vote is required to pass this examination. If the result is failure, the advisory committee determines the conditions to be met before another examination may be given. The minimum time between examinations is four months. A second examination must be taken within one year after taking the first examination; a third examination is not permitted. If a student fails the qualifying examination on the first attempt, the Advisory Committee may not be changed prior to re-examination without approval of the Dean of the Graduate School. Students are admitted to candidacy for the doctoral degree after they have successfully completed the Qualifying Examination; the date is noted on the transcript.
5. All students passing the Qualifying Examination must register for 2 credits of TOX 767 every Fall and Spring semester until they graduate, starting with the Fall semester after they take the qualifying exam. (Typically the first registration for TOX 767 is for the semester beginning of their third year). This qualifies as being “full-time” for those students who need to maintain this status (e.g., international students and those students receiving certain scholarships or fellowships).
6. All degree requirements for the doctorate must be completed within five years following the semester or summer session in which the candidate successfully completes the qualifying examination. Requests to the Graduate School for extensions in the program can be submitted with approval of the DGS.

F. Notification of Intent to Schedule a Final Doctoral Examination (NOTIF)

A student is eligible to sit for the final doctoral examination after completion of two semesters of post-qualifying residency. In order to provide sufficient time for the Graduate School to identify an outside examiner, the student must submit the NOTIF a minimum of eight weeks prior to the anticipated defense date. To prevent multiple submissions of the NOTIF, this step should not be completed until the

Advisory Committee approves submission of the NOTIF. As part of the process of identifying an outside reviewer, either the student or the Major Advisor can contact candidates to determine their availability for the exam and include their names in the NOTIF.

G. Publication

Because of the recognized importance of publications as a measure of a successful graduate career and/or the ability of the student to compete for future positions, the department expects that students have at least one first-authored, peer-reviewed data-driven research paper (not a review article) published or accepted for publication before the student can submit the Notification of Intent to Schedule a Final Doctoral Examination form. Requests for exceptions to this policy by the student or the student's Major Advisor should be brought to the attention of the DGS, who after consulting with the student, the student's Major Advisor, and the members of the student's dissertation committee, will recommend whether or not to allow the requested exception. The DGS will copy the recommendation to the student, the student's Major Advisor, and the members of the student's dissertation committee. The dissertation committee will then make the final decision about the requested exception.

H. Request for Final Doctoral Examination

To schedule the dissertation defense the student should determine availability of their committee members for the desired date. Doctoral final examinations may only be scheduled when classes are in session (Fall and Spring semesters, 12-week summer session). Examination and degree conferral deadlines can be found in the University Calendar.

A student must then submit a "Request for Final Examination" to the Graduate School a **minimum of two weeks** prior to the scheduled date of the examination. The DGS approves the Request for Final Examination. This submission generates an exam form that is sent by email to the DGS and the Major Advisor. This submission generates an exam form that is sent by email to the DGS and the Major Advisor. It is imperative that this form be taken to the exam and signed at the completion of the exam indicating whether the student has passed or failed.

The Graduate School will send announcements of the examination to each committee member and to the student. The student should submit identical, final drafts of their dissertation to each of their committee members, including the external examiner appointed by the Graduate Dean, at least two weeks prior to the scheduled examination date. Some committees may request to receive the dissertation document prior to two weeks before the examination date. If members of the committee judge that the dissertation needs further revision before the defense, the examination can be rescheduled.

I. Graduate School Procedures for Conducting the Final Examination

The following are Graduate School procedures for conducting the final examination:

At the outset of the Examination, the DGS or committee chair should verify that the Examination Card has been brought to the examination room. If this is not the case, the committee chair or DGS must call the Senior Associate Dean's office at the Graduate School (257.7126) to determine whether the

examination may proceed. The Examination may not begin until all voting members of the committee are present (these names are listed on the examination card). One or more members of a master's or doctoral committee may participate remotely in an Examination if a video-conference connection can be established (this option does not apply to the Outside Examiner assigned to final doctoral defenses). The DGS should identify the committee members participating in this fashion on the qualifying or final examination request form. Under exceptional circumstances, the remote participation option may also be extended to the student.

An Examination may be cancelled prior to its official start for substantive reasons with no permanent consequences for the student. The student has not failed the examination in this case because it had never officially begun. Substantive reasons can include a missing committee member, a sudden difficulty in the candidate's personal life that may affect performance, or a (late) opinion on the part of one or more committee members, for example that the dissertation is not ready to defend. In such cases, the committee may hold an open or closed discussion to review the issues at hand and reach a decision on whether to hold the examination or not. Furthermore, the candidate has the right to cancel the examination prior to its start. If the examination is cancelled, it must be formally re-scheduled with the Graduate School in the standard fashion. A minimum two-week interval is required for re-scheduling the examination.

Once the examination has begun, it must be carried through until its end. A formal vote must be taken and recorded on the examination card, along with the signatures of all (voting) members. There are only two outcomes possible; Pass by majority vote, or Fail. The examination may not be suspended for an extended period to permit the candidate to correct deficiencies, and subsequently re-convened. The only suspensions permitted are short ones to permit the candidate or committee members to refresh themselves.

If an emergency situation should arise during the course of an examination, the committee chair or DGS should immediately call the Graduate School (257-4905 or 257-1759) to seek guidance.

It is not unusual for the committee to stipulate changes that need to be made to the examination copy of the Dissertation before it can be submitted to the Graduate School. The student's Major Advisor is responsible for ensuring that these changes are made. It is the student's responsibility to make sure that they are made within sixty (60) days of the completion of the exam.

J. Submission of Dissertation

1. The student has 60 days from the date of the exam to receive approval of the final version of the dissertation from the Graduate School. Failure to obtain approval of the dissertation from the Graduate School within 60 days of the exam may result in the student having to be re-examined.
2. Once the Graduate School notifies the student of acceptance of the dissertation within the 60-day window, the student will be removed from research assistantship payroll since this is mandated.
3. The specific formatting requirements for the dissertation are at the following link:
<http://gradschool.uky.edu/thesis-dissertation-preparation>

4. These instructions include the Electronic Thesis or Dissertation Approval Form (ETD) that must be submitted with the final copy of the dissertation. **It is advised that the final copy of the dissertation be submitted well in advance of the 60-day period noted above.** It is not unusual for the Graduate School to return a Dissertation for reformatting. This form also includes an option to “embargo” the Dissertation. This option prevents public release of the Dissertation for up to two years in the event that the Dissertation contains sensitive intellectual property. ETD submission and embargo procedures are described in the attachment to the ETD approval form.

K. Request for Graduation

The semester calendar lists the last day to apply for graduation and submit a request through the MYUK portal. These deadlines are early in each semester. If a student misses the deadline, they will graduate the following semester. Students will receive a document from the Graduate School when the Graduate School accepts the final dissertation indicating that the student has fulfilled all degree requirements which can be used to transfer to the next career phase if the student has not formally received the actual degree. For example, if a student defends in November but does not formally graduate until the following May, they can use this document to indicate their completion of the doctoral program. The links below relate to scheduling graduation:

<http://gradschool.uky.edu/calendar>

<http://www.uky.edu/graduate/>

<http://www.uky.edu/Commencement/>

VI. Additional Important Information

A. Holiday & Leave Policy

The University of Kentucky recognizes certain holidays by closing of all departments and offices except where continuous service is essential. Students are eligible to receive these holidays. When required to work on a University holiday (including times that the University President has closed the University campus for a special reason), time off shall be granted and taken on another scheduled working day within one week of the holiday.

Students are entitled to a maximum of 10 days of vacation each fiscal year (July 1 – June 30). Students are required to work during periods when University offices are open but classes are not being held unless vacation leave is approved. Vacation days will expire on June 30 each year and a new allocation begins July 1st. The Absence Record Form must be completed and sent to toxandcancerbio@uky.edu for tracking of approved leave.

B. Sponsored Student Travel

Before making any travel arrangements or registering for a conference, an Absence Record Form must be completed and sent to toxandcancerbio@uky.edu. The department will advise on how to make travel arrangements based on if the student holds an Assistantship or Fellowship.

After returning from travel status, receipts must be submitted for reimbursement as soon as possible to ensure compliance with applicable University and federal regulations.

It is required that each student contact the DTCB Office prior to booking flights/hotel. A UK Travel Vendor must be used and proper use of a procard must be followed. Instructions and a form are included are available from the DGS or the DTCB office.

C. Graduate Student Academic Staff Forms (GSAS)

The GSAS Research Assistant appointment form is submitted prior to the beginning of each semester. Each student will receive an email notification that it has been submitted by the DGS and they must follow the link and approve the submission in order for it to be transmitted to the Graduate School. Failure to approve the submission can influence receipt of the stipend and tuition waver.

D. Leave

Decisions concerning leave with, or without, Research Assistantship stipend will be determined in accordance with the Graduate Bulletin.

VII. Tuition

Students are guaranteed payment of tuition related to their doctoral programs subject to the following conditions:

- A. The coursework for which the student has registered has been approved by the chair of their Advisory Committee and the DGS of their program.
- B. The student is in good academic standing according to the criteria outlined in this handbook. Students who have been notified by the Graduate School that they are officially on academic probation will be responsible for payment of in-state and out-of-state tuition charges while they remain on probation. Once they have raised their GPA to the required 3.0 to regain good academic standing, payment of any future tuition charges will be covered by their Major Advisor and/or program, subject to condition A.
- C. Tuition costs during the first 4 semesters prior to the qualifying exam and the two credit hours of TOX 767 will be covered by the department or the Major Advisor. Costs associated with additional coursework will be the responsibility of the student or, when the additional coursework is recommended by the students Advisory Committee for their research then the student's Major Advisor will be responsible.

VIII. References

- *Administrative Regulation 5:2*
http://www.uky.edu/reg/sites/www.uky.edu/reg/files/files/ar/priors/ar_5-2_2018_final.pdf

The above Administrative Regulation includes in part the following provisions:

B. As full-time graduate students, teaching, research, and graduate assistants must not be assigned responsibility requiring more than fifty (50) percent of their working time. For teaching assistants, this means service for not more than an average of twenty (20) hours per week, including all time spent in preparation, classroom and laboratory teaching, grading papers, or interacting with students, or in any

combination of those activities in which teaching assistants customarily participate. The responsibilities of research and graduate assistants will vary with the fraction of time for which they are employed, but normally a full-time assistantship appointment should require no more than twenty (20) hours per week of assigned duties.

C. Teaching, research, and graduate assistants must seek and obtain approval from the Graduate School before accepting any University employment or assignment that, when combined with their assistantship, would result in work in excess of the allowed 20 hours per week.

D. Master's degree students will serve no more than three (3) years as teaching or research assistants, unless an extension for good cause is granted by the Graduate School.

E. Doctoral students will serve no more than five (5) years as teaching or research assistants, unless an extension for good cause is granted by the Graduate School.

F. Teaching, research, and graduate assistants will maintain satisfactory academic records and progress toward degrees. If their academic progress is unsatisfactory, their assistantships may not be renewed.

- Graduate Bulletin
- Graduate School Director of Graduate Studies Manual
http://gradschool.uky.edu/sites/gradschool.uky.edu/files/FacultyStaff/DGS_Manual_2017-18.pdf
- Department of Toxicology and Cancer Biology Rules
https://toxicology.med.uky.edu/sites/default/files/tox-department_rules_of_procedure_0.pdf

PART II

Research assistants will maintain satisfactory academic standing (Section IV.I). If their academic progress toward the degree is unsatisfactory (Section IV.I, J), their assistantships may not be renewed (AR 5:2.IV.F) and the student will be considered for termination from the program (Section IV.I.4; Section IX). After four years in the DTCB and/or IBS doctoral program), status in the program and renewal of research assistantships will be reviewed on an annual basis.

At the beginning of the fifth doctoral year and at the beginning of each year thereafter, the Major Advisor, the Chair of the DTCB and the DGS will review student academic progress towards graduation (Section IX). This review must be completed at the beginning of the fifth doctoral year, regardless of the timing of any committee meeting the previous year held pursuant to Section IV.I,J. The written evaluation will be provided to the student, copied to the Advisory Committee and retained in the student's progress file. This review of progress toward the degree will also be a basis for the advisory committee's recommendation concerning continuation or renewal of a research assistantship (Sections VII, VIII)

IX. Procedures for Terminating a Graduate Student from a Current Research Assistantship

A. Conditions of Doctoral Research Assistantship

Major Advisor

When the faculty member elects to become the Major Advisor of a doctoral student (typically commencing the start of the student's second program year), the faculty member will receive and sign a Memo of Understanding as follows:

"The Major Advisor accepts the responsibility of guaranteeing funding for the doctoral student, provided the student remains in good academic standing (Section IV.I) Unless otherwise stipulated in writing by the Chair of the DTCB, the DTCB will be responsible for financial support of the doctoral student under the unforeseen circumstance that the Major Advisor is unable to provide that financial support. The funding guarantee includes:

- 1) Tuition for coursework required for the completion of the degree, as determined by the student's doctoral program and advisory committee,
- 2) Stipend (\$30,000 for 12 months as of AY23-24),
- 3) Applicable mandatory and student health fees,
- 4) Health insurance, and
- 5) Other costs (supplies, etc. relevant to their training)"

Student

The doctoral student is expected to complete all requirements for the doctoral degree by the end of the fifth year from the time of initial enrollment in the DTCB (or from initial enrollment in the IBS program if the student transferred to the DTCB from the IBS program). Each DTCB doctoral student supported by a research assistantship is expected to understand that they must remain in good academic standing for continuation in the program and continued research assistantship support, under the conditions prescribed in this handbook. Each doctoral student upon acceptance into the doctoral program must sign a form indicating that they understand the Student Handbook.

C. Termination of Research Assistantship During a Funding Period

Educational units may terminate a doctoral graduate student from their research assistantship position during a research assistantship funding period if the unit receives relevant information that indicates the student should be terminated from their position (AR 5:2.E). As described in the first paragraph of Part II above, the DTCB commits funding of research assistantships through a five-year funding period, except as provided below.

1. Not in Academic Good Standing. Financial support is academically guaranteed only to doctoral students who remain in good academic standing in the program as outlined in this handbook. A student's academic performance in course work and in their laboratory investigation project is monitored periodically, under procedures and criteria described in Section IV.

If a student receives, below, (i) on two occasions, or (ii) on two occasions, or both (i) and (ii) in any order

(i) A grade of C or below in coursework or an unsatisfactory in the residency TOX 767 course

and/or

(ii) An unsatisfactory evaluation from their advisory committee meeting for reason of performance/progress in their laboratory investigation project,

then the student can be considered for termination from the Research Assistantship.

If a student receives an unsatisfactory evaluation from their advisory committee meeting for reason of performance/progress in their laboratory investigation project but have not received a course grade of C, or a grade of U in TOX 767, then they must schedule a subsequent advisory committee meeting within 3 months. Failure to schedule this subsequent advisory committee meeting within 3 months will be considered as the same academic effect as another unsatisfactory academic evaluation by the committee. This 3-month period can be extended only upon the written approval of the DGS and the extended date must be approved by the DGS. If at this subsequent advisory committee meeting the student receives another unsatisfactory evaluation by the committee, the student will be considered for termination from the program (Section IX) and /or their Research Assistantship (Section VII, VIII), as described here in Part II of this document.

If a student's academic standing is found to be unsatisfactory after this second committee meeting, financial support to that student can be terminated with an advance notice of 14 days. The final decision to terminate the research assistantship position will be made by the department chair, upon concurrence by the Major Advisor, majority of the Advisory Committee, and the DGS. This decision can be appealed by the student per section IV and VII.D below.

2. **Other Circumstances.** In contrast to the above concern of academic standing, in the circumstance that a determination has been made that the student has committed neglect of university duty, or in the circumstance that other relevant information has been received by the DTCB, the student is subject to notification of immediate termination. This decision can be appealed by the student per section IV and VII.D below.

D. Appeal

If the student believes that the unit's decision to terminate the research assistantship is in error, the student may appeal the ruling to the Graduate Council within fifteen (15) days of the notice of termination. A delegated subcommittee of at least five (5) members of the Graduate Council will consider the appeal, request further information from the student or the educational unit if necessary, and issue a written response to the student within 45 days of the appeal being filed (AR 5:2.E). If the student believes that their appointment has been terminated as a violation of established procedure or a violation of academic freedom, the student may file a complaint with the Senate Advisory Committee on Privilege and Tenure, in accordance with the procedures outlined in Section 1.4.4.2. of the University Senate Rules (AR 5:2.E).

X. Procedures for Nonrenewal a Graduate Student to a Research Assistantship in the Doctoral Program

A. Nonrenewal of Research Assistantship

Research assistantship policies described here in Section X apply to students who have not graduated from the doctoral program after five years. Section X applies also to ungraduated transfer students who are at a point equivalent to five years in the doctoral program.

1. **Not in Academic Good Standing**
The procedures and criteria for determination of academic standing described in Section IX.C.1 also apply here. A decision not to renew a research assistantship, or to rescind notice of renewal, under this provision can be appealed by the student per section IX and X.C below.
2. **Other Circumstances.** In contrast to the above concern of academic standing, in the circumstance that a determination has been made that the student has committed neglect of university duty, or in the circumstance that other relevant information has been received by the DTCB, the student is subject to notification of nonrenewal or rescission of notice of renewal. This decision can be appealed by the student per section IX and X.C below.

If the Research Assistantship will not be renewed in the coming academic year, the R_research assistant will be notified by March 1. An educational unit may rescind a renewal appointment after the March 1 deadline if the unit subsequently receives additional relevant information that indicates the graduate student should not have the research assistantship position renewed.

Decisions not to renew a graduate student's research assistantship position or rescission of a notice of renewal, must include consideration of progress information recorded from the advisory committee meetings (IV. above). The final decision to not renew the research assistantship position will be made by the Chair of DTCCB upon concurrence by the Major Advisor, majority of the Advisory Committee, and the DGS. This decision can be appealed by the student per section IV and X.C

C. Appeal

If a research assistant is not reappointed or the renewal notice is rescinded, and believes that the unit's decision to not reappoint or decision to rescind is in error, then the graduate student may appeal the ruling to the Graduate Council within 15 days of the notice of non-reappointment. A delegated subcommittee of at least five (5) members of the Graduate Council will consider the appeal, request further information from the student or the educational unit if necessary, and issue a written response to the student within 45 days of the appeal being filed (AR 5:2.V.C, D). If the student believes that their appointment has been terminated as a violation of established procedure or a violation of academic freedom, the student may file a complaint with the Senate Advisory Committee on Privilege and Tenure, in accordance with the procedures outlined in Section 1.4.4.2. of the University Senate Rules (AR 5:2.V.E).

XI. Procedures for Terminating Graduate Students from the M.S. or Doctoral Programs

Circumstances under which termination from the program may occur are as follows.

- A. Termination from the M.S. or Ph.D. program is automatic and the DGS will provide the student with written notice of the action if the student:
 1. Is on scholastic probation (i.e. reasons of grade point average) for two consecutive semesters, or
 2. Fails the Ph.D. Qualifying Examination after the second attempt, or
 3. Fails the Ph.D. Final Examination after the second attempt, or
 4. The student submits to the DGS and the Major Advisor a written notice of withdrawal from the DTCCB M.S. or Ph.D. programs

- B. Termination from the Ph.D. Program for Reason Student Choosing to Separate from the Major Advisory.

It is by mutual agreement with the Major Advisor that a graduate student conducts his or her graduate program research project under the immediate academic supervision of and in the laboratory of the Major Advisor. If during the course of a graduate student's program, the student wishes to change to a different willing Major Advisor who is a member of the DTCC graduate faculty and to continue in the DTCC degree program-the Director of Graduate Studies must be notified by the student.

If the student who wants to seek a new Major Advisor is judged to be in good academic standing by the DGS, then the then Chair and DGS may support the student to secure a sponsoring DTCC laboratory over a period of no more than two months. The student has no more than two weeks to identify a rotating mentor which could include a previous rotation mentor and then the student will have six weeks to carry out the laboratory rotation. If the student does not identify a new agreeing Major Advisor within this 2-month period, the student is considered for termination from the program and from the Research Assistantship. The decision to terminate from the program and from the research assistantship will be made by the department chair, in consultation with the DGS. A termination decision can be appealed by the student per section IX.D.

C. Termination for Reason of Not in Good Academic Standing

Doctoral Program

A student's Advisory Committee may recommend termination from the doctoral program in which the student is enrolled (1) at any time prior to the Qualifying Examination, (2) after the student has failed to pass one Qualifying Examination, or (3) after the Qualifying Examination has been passed. Consideration by the Advisory Committee to develop a termination recommendation must include consideration of progress information recorded from the advisory committee meetings (Section IV.I, J. above), and must have offered the student opportunity to submit a contemporaneously updated biosketch. An Advisory Committee recommendation to terminate the student from the doctoral program must include a statement that the Advisory Committee considered the appropriateness of alternatives other than termination from the program. The recommendation of the Advisory Committee must be submitted to the Director of Graduate Studies and a copy given to the student. This letter must clearly state the reasons for the committee's recommendation. In cases where the student's Advisory Committee recommends termination after the qualifying examination has been passed, the Graduate Faculty in that program will meet to vote on the recommendation. When the Graduate Faculty of that program concurs and the student dissents, the student will have an opportunity to meet with the Graduate Faculty of the program, after which a second vote will be taken and a final recommendation will be made, through the DGS, to the Dean of the Graduate School.

Master of Science Program

(1) Pursuant to Graduate School policy, students will be terminated from the Graduate School and DTCC program upon scholastic probation for two consecutive semesters.

(2) A student's Advisory Committee may recommend termination from the Master of Science program in which the student is enrolled for reason of failure to pass the research project defense (Plan A) or failure to pass exam concerning the research paper (Plan B).

D. Appeal

According to Senate Rule 6.1.3, students “have the right to receive a fair and just academic evaluation of their performance in a program. In addition to the student's overall academic record, evaluation may include the assessment of such activities as research and/or laboratory performance, qualifying examinations, professional board examinations, studio work or performance activities, behavior in professional situations, or interviews to determine continuation in a program. The program faculty and/or relevant administrative officer must inform the student as to which activities will be included in the academic assessment no later than the beginning of the activity to be evaluated.” “Evaluations determined by anything other than a good faith judgment based on explicit statements of the above standards are improper.”

If the student believes that their academic dismissal from the M.S. or Ph.D. program is a violation of student rights as prescribed in the University Senate Rules 6.1.3, the student may file a complaint with the Ombud.

XII. Tuition

Students are guaranteed payment of tuition related to their doctoral programs subject to the following conditions:

- D. The coursework for which the student has registered has been approved by the chair of their Advisory Committee and the DGS of their program.
- E. The student is in good academic standing as outlined in this handbook. Students who have been notified by the Graduate School that they are officially on academic probation will be responsible for payment of in-state and out-of-state tuition charges while they remain on probation. Once they have raised their GPA to the required 3.0 to regain good academic standing, payment of any future tuition charges will be covered by their Major Advisor and/or program, subject to condition A.
- F. Tuition costs during the first 4 semesters prior to the qualifying exam and the two credit hours of TOX 767 will be covered by the department or the Major Advisor. Costs associated with additional coursework will be the responsibility of the student or, when the additional coursework is recommended by the students Advisory Committee for their research then the student’s Major Advisor will be responsible.

XIII. References

Administrative Regulation 5:2

http://www.uky.edu/reg/sites/www.uky.edu/reg/files/files/ar/priors/ar_5-2_2018_final.pdf

The above Administrative Regulation includes in part the following provisions:

B. As full-time graduate students, teaching, research, and graduate assistants must not be assigned responsibility requiring more than fifty (50) percent of their working time. For teaching assistants, this means service for not more than an average of twenty (20) hours per week, including all time spent in preparation, classroom and laboratory teaching, grading papers, or interacting with students [[which students?], or in any combination of those activities in which teaching assistants customarily participate. The responsibilities of research and graduate assistants will vary with the fraction of time for which they are employed, but normally a full-time assistantship appointment should require no more than twenty (20) hours per week of assigned duties.

C. Teaching, research, and graduate assistants must seek and obtain approval from the Graduate School before accepting any University employment or assignment that, when combined with their assistantship, would result in work in excess of the allowed 20 hours per week.

D. Master's degree students will serve no more than three (3) years as teaching or research assistants, unless an extension for good cause is granted by the Graduate School.

E. Doctoral students will serve no more than five (5) years as teaching or research assistants, unless an extension for good cause is granted by the Graduate School.

F. Teaching, research, and graduate assistants will maintain satisfactory academic records and progress toward degrees. If their academic progress is unsatisfactory, their assistantships may not be renewed.

Graduate Bulletin

<http://bulletin.uky.edu/index.php>

Graduate School Director of Graduate Studies Manual

http://gradschool.uky.edu/sites/gradschool.uky.edu/files/FacultyStaff/DGS_Manual_2017-18.pdf

Department of Toxicology and Cancer Biology Rules

https://toxicology.med.uky.edu/sites/default/files/tox-department_rules_of_procedure_0.pdf

[Graduate Student Handbook Appendix A](#)

Guidelines for the Ph.D. qualifying exam (Dept. of Toxicology and Cancer Biology)

1. Prerequisites:

A. Student Advisory Committee:

At some point during the student's first year of study, the student must select an advisor. After identifying a major advisor, the students shall have their first Advisory Committee meeting no later than August 15. The Graduate School has an online form for students to complete and submit online.

https://ris.uky.edu/cfdocs/gS/DoctoralCommittee/Selection_Screen.cfm

After the student submits the form, it is electronically routed to the DGS who can either approve it and forward it to the graduate school or disapprove it and return it to the student with directions for correction.

From the Graduate School website: see above for comment on numbers
The Advisory Committee must have a minimum of four members. At least three members of the committee must be from the Department of Toxicology and Cancer Biology (TCB) (core or joint faculty). The fourth member shall have relevant experience but they shall not be a member of the TCB Graduate School faculty. Three members of the committee must be full members of the Graduate Faculty. The advisory committee has a core of four members. This core consists of the major professor as chair, two other members from the major area, and at least one representative from any minor area(s). At least one representative must be from outside the academic program (department). All members of the core must be members of the Graduate Faculty of the University of Kentucky and three (including the major professor) must possess full Graduate Faculty status. Additional faculty members may serve as members of the advisory committee. The core of the advisory committee must be kept at its full complement throughout the graduate career of the individual student. Thus, in the event of a vacancy on the committee (occasioned by resignation, faculty leave, or inability to serve), an appropriate replacement must be made prior to any subsequent committee decisions.

B. Curriculum and Grade Requirements:

A core curriculum, described in the TCB current curriculum, is required for all doctoral students before the qualifying exam. Prior to the beginning of the Fall semester of the second year, the Primary Advisor of the student shall inform the DGS that they have reviewed and discussed the student's second year curriculum with the student and that they have approved it.

A proposed curriculum, prepared by the Chair of the Advisory Committee (i.e., the student's mentor) in consultation with the student, shall be approved by the student's Advisory Committee by December 15 in the students' second year of study.

The student should complete all of the required courses (with a minimum of 36 graduate credit hours) with a 3.0 GPA or better, and have satisfied the residency requirements of the Graduate School before taking the qualifying exam. **If a student receives two Cs or one E, it is required that the student's major advisor, the DGS and the student's advisory committee assemble to consider whether the student shall be subject to dismissal.**

2. The qualifying exam:

A. Proposal:

During the fall semester of each student's second academic year, each student must submit to their committee a draft of a Specific Aims page (one page Letter) describing a topic that can potentially be developed into an NIH-style grant proposal. They will then present this using PowerPoint in the TOX 770-002 course. The Specific Aims page shall contain enough information (including a central hypothesis and outlines of experimental approaches/strategies to test the hypothesis supported by 1-2 critical references) for the committee to discern whether a proposal on the topic is reasonable. The draft should contain two or three Specific Aims and each Aim shall be supported by at least three distinct conceptual experimental approaches. Each Aim and each experimental approach should have its own rationale that addresses the central hypothesis. If the original Specific Aims page is not satisfactory, the student can be asked to modify and/or submit a revised version. The committee must approve a specific topic and Specific Aims page for further development by the student into a grant proposal. This will be the basis of the student's written grant proposal for the Toxicology grant writing course TOX780 in the spring semester of the 2nd year and should be used subsequently for the qualifying exam. The student shall provide documentation to the DGS that their topic and Aims page have been approved by their committee members by the end of the fall semester of the 2nd year.

The primary goal is for the student to develop an independent proposal, form their own hypotheses and design the experiments to test them. The grant proposal for the written part of the qualifying exam can be related to projects that the student is working on in the laboratory but it cannot contain any portions that represent material found in the primary advisor's funded or submitted projects. The student is encouraged to consult the mentor and other committee members regarding selection of a suitable topic. However, such consultations shall be limited to discussions of general themes and overall concepts that might be interesting for further research (and helpful for the student's development).

Structure of qualifying exam grant proposal:

The proposal is to be organized in an NIH style R21 format.

<https://grants.nih.gov/grants/how-to-apply-application-guide/format-and-write/page-limits.htm#other>

The proposal should include the following:

1. Abstract/Summary (½ page),
2. Current NIH style Biosketch
3. Budget and budget justification
4. Specific Aims (1 page maximum). The specific aims shall be hypothesis driven with clearly described rationales.
5. Research Strategy (6 pages) The Research Strategy shall include the following:
 - (i) Background (describes the reasoning and provides references to prior work in the field) (1-2 pp) including Rigor or Prior Research
 - (ii) Significance/Innovation section (0.5 pp)
 - (iii) Experimental Approaches section (ca. 4 pp). The student shall develop the specific aims in the Approach Section. Each Aim shall be supported by at least three experimental approaches and shall include a section that describes potential pitfalls/alternative approaches. The Approach section shall include a section on statistical analysis of the expected data, and if the student proposes to use animals or human subjects, a justification or prospective power calculation needs to be performed and choice of gender and demographics. A brief timeline of the proposed studies shall be included.
6. Literature Cited (no page limits)
7. A Check List of All Components will be supplied to each student for them to complete

Coordination of the qualifying exam grant proposal with the TOX 780 Grant Writing Course:

Spring Year: 2023

Midterm date to submit draft proposal: March 9

Submission date of final version of proposal for course purposes and committee members: April 20

Date course directors provide final feedback to students: April 27

Date committee members provide written feedback: May 11

Date students provide revised proposal to committee members: June 1

Last date for students to take qualifying exam: June 30th

Each student submits a draft of the grant proposal to the Tox 780 course directors at approximately the midterm of the Spring semester. The course directors then submit the student's draft proposal to the primary advisor and committee members. The primary advisor and committee members are only allowed to provide written feedback to the student regarding the general viability and feasibility of the specific aims. The feedback and the student's written response to the feedback are monitored by the TOX 780 course directors. Each student completes their grant proposal for TOX 780 one week before the last day of classes and submits it by that date to (1) the Tox 780 course directors for

review and (2) their committee members including the Major Advisor. The Tox 780 course directors provide feedback to the students by the last day of classes of the spring semester. Committee members submit written feedback to the student within two weeks of the last day of classes. The Major Advisor is not allowed to provide additional feedback but she/he monitors the written feedback provided by the other committee members to resolve with the committee any conflicting information provided in the feedback. Students have 3 weeks to revise the proposal and submit the final version of the proposal to the committee members. The student has 4 weeks from submission of the final version to take the qualifying exam (Final deadline June 30th). Under extenuating circumstance, an extension of the final deadlines for submission of the grant proposal or scheduling of the exam can be considered, and must be approved, by both the committee (including the Major Advisor voting) and the DGS.

B. Exam:

The students shall schedule the qualifying exam in relation to the date of final submission of the proposal. The request to schedule the qualifying examination must be submitted to the Graduate School a minimum of two weeks in advance of the planned date. The oral exam shall take place no earlier than one week and no later than 4 weeks after submission of the written proposal. The students can consult the DGS about forms to be submitted ahead of time to the Graduate School specifying the date, time, and location of the oral qualifying exam.

https://ris.uky.edu/cfdocs/gS/DoctoralCommittee/Selection_Screen.cfm

During the oral exam, the student shall deliver a 30 min oral presentation on the proposal. Although present, the student's mentor is not allowed to question the student or respond to questions during the oral examination. For the purposes of this meeting only, the mentor will designate another committee member to preside over the questioning of the student. The committee members will question the student on issues regarding the proposal and other related areas about which the student is expected to be knowledgeable (e.g., from the classes the student has taken).

Once the student has completed the oral defense and left the room, the mentor can discuss or provide clarification about questions other committee members might have. All committee members will then vote on whether the student (i.e. the candidate) has passed or failed this oral exam. If the candidate does not pass, the committee should recommend methods by which the candidate may strengthen his/her weaknesses and prepare for the re-examination within the time frame stipulated by the Graduate School (no earlier than 4 months and no longer than one year). If the candidate passes the exam, the committee may also make recommendations regarding how the student can make improvements or take additional coursework if needed.

Graduate Student Handbook Appendix B

Employment and Academic Time Investment Expectations of the Major Advisor and Their Doctoral Students

Preamble:

DTCB is committed to “establishing and maintaining a rigorous graduate program,” that ensures its graduates possess the “foundational knowledge, skills, and values” for their attainment as scientific professionals.

To accomplish these program objectives, it is DTCB policy that the progress of its graduate students is closely monitored, through milestones and assessing outcomes with clear criteria for assessing outcomes. Identification of these milestones is a mutual process in which the Major Advisor fulfills the responsibility to establish at the outset of the project a timeline for completion, within which the student can plan a timeline for the phases of work and meet the requirements in the appropriate time frame.

A component of these mutual commitments of the Major Advisor and student is the expectations of the time investment toward stipend and toward academic progress. The purpose of this document is to support the continuing discussion and mutual understanding between the Major Advisor and student on the aspect of time investment.

In addition to this document and its attending discussion, the DTCB program expects discussion of the commitments of the student and Major Advisor regarding their roles and conduct during the student’s training experience. For example, expectations that the student will attend seminars, journal clubs, professional development programs, conferences, share lab responsibilities, and expectations that the Major Advisor will provide a supportive, equitable, and safe environment, help the students move forward with their projects, expect, discuss authorship policies for papers, promote the students professional skills (oral and written communication, collaboration, RCR, teaching) and give them opportunities for exploring career opportunities. For more information on this aspect, see DTCB Graduate Student Handbook, Appendix C. See also the AAMC “Compact Between Biomedical Graduate Students and Their Research Advisors” from which some of the above concepts were drawn.

.....
[\(Example Template\)](#)

Purpose: To clarify expectations of two separate concepts about time investment that apply to major advisors and their graduate students:

1. Hours/week of required employment work in order to receive work pay
2. Hours/week of required academic/scholarly activity in the student’s degree plan/project in order to progress on an academically satisfactory pace toward graduation

1. Time Commitment in Relation to Employment/Stipend Status (AR 5:2)

Students in the DTCB PhD program generally earn their stipend through Research Assistantships but may also be funded under; Graduate Teaching Assistantships, Graduate School Fellowships, U.S. government funded awards (such as NIH NRSA mechanisms), or funding by external government (international students).

The legally controlling University-level Administrative Regulations ([AR 5:2](#)), establish that the personnel status of a graduate student regarding their employment pay mechanism includes the category “Research Assistant”:

C. Research Assistants

“Research assistants” means graduate students who are **employed to assist with faculty research**.

The specific requirements *to receive the pay/stipend* will depend upon the particular mechanism of the particular student.

- DTCB Research Assistantship (maximum 20 hours per week)
- Graduate Teaching Assistantship (maximum 20 hours per week)
- Graduate School fellowship (depends on fellowship)
- U.S. government funded award (depends on the award)
- Funding by external govt (international students); (depends on the award)
- Other employment/stipend funding mechanism (depends on the award)

For those mechanisms that depend on the specific type of award, the student should ask the Major Advisor as to the applicable hours per week policy.

NOTE: Many faculty choose to (but are not required to) consider student training/research directly contributing to a student’s own thesis project as also fulfilling the Research Assistantship requirement “to assist faculty with research.”

2. Academic Time Commitment – time required to make necessary academic progress towards the degree* in terms of the following progress expectations

(*These academic expectations elaborated below for necessary **academic progress** apply irrespective of whether the **employment/stipend status** of the student includes DTCB Research Assistantship, Graduate Teaching Assistantship; Graduate School fellowship; U.S. government funded award; funding by external government (international students); or any other employment/stipend funding mechanism. These academic expectations arise within the framework of DTCB graduate program handbook, not from the University employment regulation AR 5:2)

2A. Necessary prequalifying/qualifying exam academic progress means:

- academic progression through coursework;
- reading and comprehension of background scientific literature on subject area that, as a reading set, provides the background necessary to conceptualize and articulate potential dissertation project hypotheses
- performing experiments/research to acquire proficiency in skills toward performing semi-independent degree activity
- writing qualifying exam research proposal
- establishment of dissertation committee within 1 month of student – Major Advisor agreement; hold at least annual meetings
- synthesis of input of committee members on written research proposal
- taking and passing the qualifying exam (unless a second attempt is required)
- regular discussion meetings between Major Advisor and student regarding progress and other mentoring environment matters

Target prequalifying time for necessary academic progression: < 2 years from the student start in doctoral program

Target time to pass the qualifying exam: < 2 years from starting the doctoral program

The expected average total hours per week for necessary academic progress will be discussed by the (potential) major advisor and the prospective student, including what part of these expected total hours are pay/stipend work time.

_____ (Place check mark here that this expectation has been discussed)

2B. Necessary post-qualifying/dissertation defense progress means:

- reading additional scientific literature to (i) maintain current status of awareness of dissertation project area and (ii) enable proficient interpretation results of ongoing dissertation experiments/research
- performing experiments/research on the dissertation project itself, including interpretation of ongoing research results and conceiving with originality the next appropriate experiments/research
- writing a draft of the dissertation of sufficient quality to enable scheduling of dissertation defense.
- holding at least annual advisory committee meetings
- regular discussion meetings between Major Advisor and student regarding progress and other mentoring environment matters
- has scheduled and performed dissertation defense activities
- has incorporated committee instructions on revision of dissertation and, if so instructed, has scheduled a second dissertation defense
- has passed the dissertation defense, submitted the final dissertation, the dissertation is accepted by the Graduate School

- regular discussion meetings between Major Advisor and student regarding progress and other mentoring environment matters

Target time to up to successful dissertation defense: \leq 5 years

The expected average total hours per week for necessary academic progress will be discussed by the (potential) major advisor and the prospective student, including what part of these expected total hours are pay/stipend work time.

_____ (Place check mark here that this expectation has been discussed)

SIGNATURES OF AGREEMENT

Date:

Major Advisor:

Date:

Student:

(cc: to Director of Graduate Studies and Department Administration Office)

DTCB Graduate Student Handbook Appendix C

Compact Between Biomedical Graduate Students and Their Research Advisors

This is from a publication of the Association of American Medical Colleges (AAMC) (2017)

Predoctoral training entails both formal education in a specific discipline and research experience in which the graduate student trains under the supervision of one or more investigators who will mentor the student through graduate school. A positive mentoring relationship between the predoctoral student and the research advisor is a vital component of the student's preparation for future careers and mentoring roles.

Individuals who pursue a biomedical graduate degree are embarking on a path of lifelong learning and are therefore expected to take responsibility for their scientific and professional learning and development from the onset. Graduate students must be in charge and take ownership of their progress through the graduate program. This means seeking guidance on and knowledge about course requirements and program requirements, policies, and procedures.

Students must also commit to working on an individual development plan. Faculty members who advise students— with the backing of the graduate program and institution—are expected to fulfill the role of mentor, which includes providing scientific training, guidance, instruction in the responsible conduct of research and research ethics, and financial support. The faculty advisor also serves as a scientific and professional role model for the graduate student. In addition, the advisor offers encouragement as the graduate student prepares an individual development plan and facilitates the experiences and professional skills development essential for a broad set of career paths.

Core Tenets of Predoctoral Training

Institutional Commitment

Institutions that train biomedical graduate students must be committed to establishing and maintaining rigorous graduate programs with the highest scientific and ethical standards. Institutions should work to ensure that students who complete their programs possess the foundational knowledge, skills, and values that will allow them to mature into scientific

professionals of integrity. They should have oversight of the graduate curricula, length of study, stipend levels, benefits, career guidance, grievance procedures, and other matters relevant to the education of biomedical graduate students (e.g., consideration of, preparation for, and exposure to various career paths). Institutions should recognize and reward their graduate-training faculty. With changing and diversified biomedical workforce needs, institutions should recognize the necessity of faculty development around multiple career paths for trainees and provide opportunities for faculty to acquire such skills and experiences. Additionally, institutions should also foster an environment that is diverse and inclusive.

Program Commitment

Graduate programs should establish training that prepares students with broad and deep scientific knowledge and the technical, professional, and leadership skills necessary for a successful career in the biomedical sciences. Programs should closely monitor the progress of graduate students during their course of study by establishing milestones and clear parameters for outcomes assessment, as well as maintain and make available career outcomes data.

Quality Mentoring

Effective mentoring is crucial for graduate school trainees as they begin their scientific careers. Faculty mentors must commit to dedicating substantial time to the scientific, professional, and personal development of the graduate student. Whether a faculty member acts as the primary research advisor or sits on a student's advisory committee, a relationship of mutual trust and respect between mentor and graduate student is essential for healthy interactions and to encourage individual growth. Effective mentoring should include teaching the scientific method, providing regular feedback in the form of both positive support and constructive criticism to foster individual growth, teaching the "ways" of the scientific enterprise, and promoting careers by providing or directing students to appropriate opportunities. The best mentors are careful listeners who actively promote and appreciate diversity. They possess and consistently maintain high ethical standards, acknowledge and recognize the contributions of students—in publications and intellectual property, for example—and have a record of research accomplishments and financial support. Finally, it should be recognized that mentoring does not end with a student's completion of the graduate program but continues throughout the

student's professional life.

Skill Sets and Counseling for a Broad Range of Career Choices

The institution, training programs, and mentor should provide training relevant to a broad variety of careers that will allow graduate students to appreciate, navigate, discuss, and develop career choices. Effective and regular career guidance activities should be offered.

Commitments of Graduate Students

- **I acknowledge that I have the primary responsibility for the successful completion of my degree.** I will be committed to my graduate education and will demonstrate this by my efforts in the classroom, the research laboratory, and all other related academic and professional activities. I will maintain a high level of professionalism, self-motivation, initiative, engagement, scientific curiosity, and ethical standards, including complying with institutional and research group standards for contributing to an inclusive research environment.
- **I will meet regularly with my research advisor to provide updates on the progress and results of my course work, research, and professional and career development activities.**
- **I will work with my research advisor to develop a thesis/dissertation project.** This will include establishing a timeline for each phase of my work. I will strive to keep engaged with the work, discuss experimental findings and any pitfalls, and meet the established goals and deadlines.
- **I will work with my research advisor to select a thesis/dissertation committee.** I will commit to meeting with this committee at least annually (or more frequently, according to program guidelines). I will discuss my progress to date and be responsive to the advice and constructive criticism from my committee.
- **I will be a good lab citizen.** I agree to take part in shared laboratory responsibilities and will use laboratory resources carefully and frugally. I will maintain a safe and clean laboratory space. I will be respectful of, tolerant of, and work collegially with all laboratory personnel. I will be an active contributing member to all team efforts and collaborations

and will respect individual contributions. I will also contribute to an environment that is safe, equitable, and free of harassment.

- **I will maintain detailed, organized, and accurate research records. With respect to data ownership, I acknowledge that original notebooks, digital files, and tangible research materials belong to the institution and will remain in the lab when I finish my thesis/dissertation so that other individuals can reproduce and continue related research, in accordance with institutional policy.** Only with the explicit approval from my research mentor and in accordance with institutional policy may I make copies of my notebooks and digital files and have access to tangible research materials that I helped to generate during my graduate training.
- **I will discuss policies on work hours, medical leave, and vacation with my graduate program and research advisor.** I will consult with my advisor in advance of any planned absences and apprise my advisor of any unexpected absences due to illness or other issues.
- **I will discuss policies on authorship and attendance at professional meetings with my research advisor.** I will work with my advisor to disseminate all relevant research results in a timely manner before completion of all degree requirements.
- **I will be knowledgeable of the policies and requirements of my graduate program, graduate school, and institution.** I will commit to meeting these requirements in the appropriate time frame and will abide by all institutional policies and procedures.
- **I will attend and actively participate in laboratory meetings, seminars, and journal clubs that are part of my educational program.** To enhance research, leadership, and additional professional skills, I will seek out other enrichment opportunities, such as participation in professional organizations and meetings, student representation on institutional committees, and coordination of departmental events.
- **I will be knowledgeable of all institutional research policies.** I will comply with all institutional laboratory safety practices and animal-use and human-research policies. I will participate in my institution's Responsible Conduct of Research Training Program and practice the guidelines presented therein while conducting my research. I will also seek input on and comply with institutional policies regarding my research design and data analysis.
- **I acknowledge that I have the primary responsibility for the development of my own**

career. I recognize that I need to explore career opportunities and paths that match and develop my individual skills, values, and interests to achieve my desired career goals. I understand that there are tools such as the individual development plan that I should use to help me define my career goals and develop my training plan. I will seek guidance throughout my graduate education from my research advisor, career counseling services, thesis/dissertation committee, other mentors, and any other resources that can offer advice on career planning and the wide range of opportunities available in the biomedical workforce.

Commitments of Research Advisors

- **Throughout the graduate student's time in my laboratory, I will be supportive, equitable, accessible, encouraging, and respectful.** I will foster the graduate student's professional confidence and encourage intellectual development, critical thinking, curiosity, and creativity. I will continue my interest and involvement as the student moves forward into a career.
- I will be committed to meeting one-on-one with the student on a regular basis. I will regularly review the student's progress and provide timely feedback and goal-setting advice.
- **I will be committed to the graduate student's research project.** I will work with the student to help plan and guide the research project, set reasonable and attainable goals, and establish a timeline for completion of the project.
- **I will help the graduate student select a thesis/dissertation committee.** I will assure that this committee meets at least annually (or more frequently, according to program guidelines) to review and discuss the graduate student's progress and future directions. I understand that the function of this committee is to help the student complete the doctoral research, and I will respect the ideas and suggestions of my colleagues on the committee.
- **I will provide an environment that is intellectually stimulating, emotionally supportive, safe, equitable, and free of harassment.**
- **I will demonstrate respect for all graduate students as individuals without regard to**

gender, race, national origin, religion, disability or sexual orientation, and I will cultivate a culture of tolerance among the entire laboratory.

- **I will be committed to providing financial resources, as appropriate and according to my institution's guidelines, for the graduate student to conduct thesis/dissertation research.** I will not require the graduate student to perform tasks that are unrelated to the training program and professional development.
- **I will expect the graduate student to share common laboratory responsibilities and use resources carefully and frugally.** I will also regularly meet with the graduate student to review data management, storage, and record keeping. I will discuss with the student intellectual policy issues regarding disclosure, patent rights, and publishing research discoveries.
- **I will discuss with the graduate student authorship policies regarding papers.** I will acknowledge the graduate student's scientific contributions to the work in my laboratory, and I will provide assistance in getting the student's work published in a timely manner.
- **I will be knowledgeable of and guide the graduate student through the requirements and deadlines of the graduate program and the institution, as well as teaching requirements, if any, and human resources guidelines.**
- **I will encourage the graduate student to attend and present their research at scientific/professional meetings and make an effort to secure and facilitate funding for such activities. In addition, I will provide opportunities for the student to discuss science and their research findings with colleagues and fellow scientists within the institution and broader scientific community—for example, at lab meetings, research days, and seminars.**
- **I will promote the training of the graduate student in professional skills needed for a successful career. These skills include but are not limited to oral and written communication, grant writing, management and leadership, collaborative research, responsible conduct of research, teaching, and mentoring.** I will encourage the student to seek opportunities to develop skills in other areas, even if not specifically required by the student's program. I will also encourage the graduate student to seek input from multiple

mentors.

- **I will create an environment in which the student can discuss and explore career opportunities and paths that match their skills, values, and interests and be supportive of their career path choices.** I will be accessible to give advice and feedback on career goals. I will work with the student on an individual development plan to help define career goals and identify training milestones. I will provide letters of recommendation for the student's next phase of professional development.