Guidelines for Doctoral Study

Department of Pharmacology
Creighton University School of Medicine

The information listed below outlines the general responsibilities of the graduate student in the Department of Pharmacology at Creighton University. Since graduate study is primarily a self-directed effort, responsibility for understanding and adhering to the guidelines and milestones listed here rests solely with the student.

1. MILESTONES TOWARD DEGREE COMPLETION
   This section will describe the activities that occur during the course of graduate studies and the approximate timetable for completion of the Ph.D.
   a) Arrival. Upon arrival to the program, the student needs to register with various university offices to assume the full privileges of a graduate student. The first visit is to the graduate school, to register as a full time student. The office of Graduate Studies will direct the student during the initial registration process.
      i) Personal registration.
         (1) Identification card. Obtained from the Public Safety department.
         (2) Payroll information. Students who will receive a stipend must visit with the Pharmacology department administrator to record their personal information for inclusion in the payroll. Each student must have a social security number prior to inclusion on the payroll. Stipends will be paid monthly on the first of the month. For students entering in the fall, the first stipend is paid on September 1.
         (3) Medical Insurance. The Graduate School offers free medical insurance to graduate students. You must sign up for coverage upon registration.
      ii) Initial course registration. The Director of Graduate Studies will assist in initial course registration. Course selection will be based on the student’s personal academic history and possible deficiencies in prerequisite courses.
      iii) Academic Advisor. During the first semester of study, the Director of Graduate Studies will serve as the academic advisor of the student.
   b) Major Advisor selection: During the first semester of study, students must take the course PHR 790, Research Methods in Pharmacology. This course consists of short-term rotations in the laboratories of faculty members in the department. These rotations are to enable the student to learn about the type of research performed by the department faculty. In addition to learning various laboratory methods, the student is afforded the opportunity to work closely with faculty members and determine what types of research they are interested in and which faculty members they might like to have as a mentor. During rotations, no discussions are allowed between student and faculty members concerning a student commitment to work in a specific faculty laboratory. Upon completion of the PHR 790, the student will send a written memo to the Director of Graduate Studies listing three faculty members that they would like to have as their research advisor. The graduate program Director and the Department Chair will then discuss the student list, consult with the student and potential mentors, and then assign students to a research advisor. Usually, students will be assigned to faculty until all of the appropriate research faculty in the department have one student. Only under special circumstances will a faculty member be the research advisor for more than two students. Research advisor assignments are made based upon departmental needs and resources, faculty availability and faculty resources to support student research. Every
effort will be made to assign students to one of their three advisor choices. After this assignment, the faculty member becomes the Major Advisor and is responsible for supervising the academic progress of the student.

c) **Advisory Committee.** After the student enters the laboratory, the advisor will identify an appropriate research area. An advisory committee will be assembled from departmental faculty and other experts in the chosen field of research during the second semester of the first year. A copy of the student’s advisory committee members will be sent to the Director of Graduate Studies and the Graduate School. At least three faculty members from the Department of Pharmacology (including the Major Advisor) are required to be on the committee and at least one other expert outside of the department. The committee will meet once a semester (Fall and Spring) to advise the student, monitor academic progress, monitor research progress, review the dissertation and participate in the student’s preliminary and final examinations. After each meeting the student should obtain signatures of their committee members signifying that the members of the Advisory Committee have reviewed the student’s progress. The student will then submit the Advisory Committee’s signatures and a summary of the committee meeting to the Director of Graduate Studies.

d) **Plan of Study.** A plan of study will be drafted by the graduate student and the Major Advisor and approved at the first committee meeting. It will list the Student name and department, the intended degree and the composition of the advisory committee. It will also detail coursework by semester that has been completed and that which needs to be taken to fulfill credit requirements for completion of the degree. It will also list any academic deficiencies (see prerequisites, section 2a) that need to be remediated. After the plan of study has been completed, copies are forwarded to the Graduate Dean and Director of Graduate Studies.

e) **Required Coursework.**
   i) To obtain the Ph.D., a student must compile at least 90 graduate level credit hours.
   ii) Required courses.
      (1) All students must take the following courses (or have previously taken an approved equivalent course elsewhere) **once** during the course of their studies:
         PHR 631 MEDICAL PHARMACOLOGY I
         PHR 632 MEDICAL PHARMACOLOGY II
         PHR 711 RECEPTOR AND MOLECULAR PHARMACOLOGY
         PHR 717 MOLECULAR BIOLOGY IN PHARMACOLOGY
         PHR790 RESEARCH METHODS IN PHARMACOLOGY
      (2) All students are required to take each of the following courses **each** fall and spring semester
         * PHR 750 RESEARCH DISCUSSIONS IN PHARMACOLOGY
         * PHR 760 RESEARCH ROUNDS
         * PHR 791 PHARMACOLOGY SEMINAR
   iii) Elective courses. The Major Advisor and Advisory Committee determine these courses.

f) **Research proposal**
   i) **Written proposal:** Before the end of the second year of study, the student must write a research proposal, which should describe the original research yet to be completed by the student. The proposal must be submitted to the Advisory Committee by the end of the student’s second year in the Graduate Program. The proposal should be written solely by the student with appropriate advice from the major advisor and

* PHR 750 and PHR 791 are not taken during the final semester / writing phase of the dissertation
advisory committee. The proposal, without a budget, must be prepared according to NIH proposal guidelines, which are available at the Office of Grants Administration.

ii) **Fellowship application.** All graduate students are expected to apply for extramural fellowships at least once during their course of studies. Usually the written research proposal forms the basis for this application.

g) **Preliminary examinations**
   i) **Written examination.** Each student must successfully complete an examination of general coursework and pharmacological knowledge that is composed by the Advisory Committee. The Director of Graduate Studies gathers questions from the members of the student’s Advisory Committee and administers the examination after the second semester of the second year of study. The student must obtain a grade of at least 80% to pass. If the student fails the examination, the committee will afford the student the opportunity to take another examination. Failure for the second time results in dismissal.
   
   ii) **Oral examination.** The oral examination is in part based on the written research proposal described previously. Committee members should be given at least two weeks to evaluate the written proposal before a committee meeting is convened for the oral examination.

h) **Doctoral candidacy.** A student who has completed all didactic coursework and who has successfully passed the preliminary examinations is advanced to doctoral candidacy and is now expected to pursue research work full time until completion of the degree. The Graduate Dean, Director of Graduate Studies and the Department Chair are notified in writing of the successful advancement to candidacy.

i) **Publications.** As stated in the section entitled “Academic Progress” a student is expected to submit manuscripts for publication that describe original research findings. Publications should be written and submitted under the supervision of the Major Advisor.

j) **Dissertation preparation**
   i) **Preparation Guidelines.** Specific directions for writing the dissertation can be found on the Graduate School Web Site at [http://www.creighton.edu/GradSchool/dissertation/dissertationindex.htm](http://www.creighton.edu/GradSchool/dissertation/dissertationindex.htm)

   ii) The Department of Pharmacology allows the use of a “chapter” format of the dissertation, in which substantial sections of previously published or submitted manuscripts are incorporated into the dissertation.

k) **Final Examination.** As described in the Graduate Bulletin, a degree candidate who has or will have satisfactorily completed the coursework outlined in the Plan of Study, the comprehensive examinations, and the final draft of his or her dissertation will be permitted to undertake an oral defense of the dissertation. The dissertation committee will have conferred with the candidate and had a suitable copy of the dissertation in their hands **at least 30 days** prior to the oral examination and defense.

   i) **Seminar.** The final examination is immediately preceded by a seminar given by the student. The seminar should cover all or part of the research presented in the dissertation. The seminar must be announced in Creighton's Blue News and in publicly posted flyers and announcements.

   ii) **Dissertation defense.** A closed examination session with the student and the advisory will immediately follow the final seminar. The student will be questioned on the research performed, the dissertation and on general topics in Pharmacology. The student is expected to demonstrate **expert** knowledge in these areas. At this time the student will be presented by the committee with specific critiques of the dissertation, which must be revised and approved by the advisory committee prior to dissertation publication.

l) **Graduation**
i) **Completion of requirements.** After the final examination and completion of the dissertation, the student will present the Final Report on Candidate for Graduate degree ([http://medicine.creighton.edu/Pharmacology/graduate/finalrpt.doc](http://medicine.creighton.edu/Pharmacology/graduate/finalrpt.doc)). This form details successful completion of the academic milestones achieved and must be signed by the advisory committee members, the major advisor and the department chair. This document verifies that all degree requirements have been fulfilled. Upon completion it is forwarded to the Director of Graduate Studies and the graduate Dean.

ii) **Participation in Commencement exercises.** The department of Pharmacology allows for the completion of graduate studies at any time of the year. However, since commencement exercises are held only twice each calendar year, it is at the discretion of the advisory committee to allow a student the privilege of participating in commencement before completion of degree requirements. Thus if an advisory committee anticipates completion of a degree a short time after an upcoming commencement date, they may allow a student to participate, rather than waiting until the next available date. The intent of this policy is to encourage participation in commencement and has no effect on the actual conference of the doctoral degree.
2. GENERAL INFORMATION AND NOTICES

a) **Prerequisites.** Each student is expected to have completed the following prerequisites prior to acceptance into the graduate program:
   
   i) Completion of a Bachelor’s Degree or its equivalent in a life or physical sciences field.
   
   ii) Successful completion of undergraduate courses in general chemistry, organic chemistry, biochemistry, general biology and physiology. Students may enter the program without completing some of these courses during their undergraduate education but these deficiencies must be made removed within the first year of graduate study.
   
   iii) Achievement of at least the 50th percentile on each section of the general Graduate Record Examination.
   
   iv) For students whose native language is not English, a minimum score of 550 must be achieved on the written Test of English as a Foreign Language (TOEFL) and a minimum score of 5.0 must be achieved on the Test of Written English (TWE). If the TOEFL test is taken in a computer-based format, the minimum score needed is 213.

b) **Full time vs. part-time status.** In order to be classified as a full time student, students must be enrolled in courses totaling at least 8 credit hours in the fall and at least 8 credit hours in the spring semester. Students must also enroll for at least three credit hours in at least one of the summer sessions. In order to receive a stipend, a student must maintain full time status.

c) **Tuition.** Doctoral students may be awarded tuition remission for each departmental course they take that has been approved by their academic or major advisor. Courses that are offered in other departments may be taken if the committee deems it a necessary component of the student’s plan of study. It should be understood that tuition remission is not a waiver but represents a departmental expense on behalf of the student. Thus, students should ensure that the course load is not excessive (i.e., well above that needed to maintain full-time status). Students that are placed on academic probation may lose the privilege of tuition remission until they have been restored to full academic standing.

d) **Stipends and insurance.** Doctoral students may be provided with an annual stipend from the department. Stipend support for students is usually for 4-5 years. Participation in undergraduate or professional school teaching may be required as part of the acceptance of a stipend from the department. This stipend is taxable income. Medical insurance is also provided through the graduate school. Students that are placed on academic probation will have their stipend suspended until they have been restored to full academic standing. If a student falls to less than full time status, they are not eligible for the stipend or medical insurance subsidy.

e) **Safety training.** Prior to working in any laboratory, all graduate students must participate in mandatory laboratory and radiation safety training. This initial training is arranged individually through the offices of Radiation Safety and Environmental Health and Safety. All students are then required to attend annual laboratory and radiation safety training seminars given by the Environmental Health and Safety Office. If a student does not attend one of the mandatory training sessions, laboratory activity must stop until the training is obtained. All accidents in the laboratory must be reported to your supervisor, who will contact the Environmental Health and Safety Office.

f) **Vacation and leave policy.** Graduate students in Pharmacology follow the Medical School calendar for formal course work but not for research work in the laboratory. Research work in the laboratory occurs year-round and sometimes requires varied hours (evenings, nights, weekends). All holidays and leaves are obtained by prior arrangement with the student’s advisor.
g) **Code of Conduct.** By enrolling as a student in the Doctoral Program in Pharmacology, students agree to follow the code of conduct that is outlined in the Creighton University Student Handbook ([http://www.creighton.edu/StudentServices/StudentHandbook/](http://www.creighton.edu/StudentServices/StudentHandbook/)). The code requires adherence to 4 commitments: 1) to act with professional, academic and personal integrity; 2) to respect and promote the dignity of all persons; 3) to respect the policies of the Creighton University community and the rights of its members both on and off campus, as well as the just laws of the civic community and the rights of its members; 4) to support the personal, professional, academic and vocational development of the members of the Creighton University community.

h) **Building access.** Each student is issued an identification card that allows access to Creighton facilities and allows materials to be borrowed from the library. Students may also be issued keys to various rooms in the department of Pharmacology. The card and keys are the property of Creighton University and may not be copied or given to others. Students are not permitted to allow access to other individuals to Creighton facilities or loan their keys to any person without the permission of their supervisor. Students are not permitted to remove any materials from laboratories or offices without permission. Upon graduation or completion of studies, the student must immediately surrender all keys that open doors at Creighton University.

i) **Confidentiality.** Laboratory work requires the performance and observation of scientific experiments, the results of which are communicated to the scientific community through appropriate channels. These ideas and results are considered the joint intellectual property of the student and advisor and must be protected as such. All unpublished or reported laboratory data and scientific ideas related to these data are to be considered confidential and are not to be discussed with personnel outside of the laboratory without the permission of the advisor. In addition, details of experimental procedures and experiments performed at Creighton University, especially those involving laboratory animals, should not be discussed with anyone outside of the Department of Pharmacology or vivarium staff without the express permission of the major advisor.

j) **Academic progress.** All students progressing towards a graduate degree are expected to show significant academic progress. Academic progress is assessed in a number of ways and is monitored by the Major Advisor, the Graduate Advisory Committee, the Program Director and the department Chair. Graduate students must show significant achievement in the following areas to remain in good academic standing and progress to the Ph.D.:

i) **Coursework.** Students must remain full time students at all times. Academic excellence is expected at the graduate level and students should achieve grades of no lower than a B. Students may accumulate no more than 6 credit hours in which a grade of C is attained. A student receiving more than 6 credits with a grade of F will be dismissed immediately from the program.

ii) **Laboratory work.** The Ph.D. degree is awarded upon completion of a significant body of original research. This research is conducted under the supervision of the major advisor who is a primary or joint appointee of the Pharmacology department. Students are expected to become familiar with the research of their advisor and the scientific literature associated with it. They are also required to perform laboratory research under the direction of their advisor. Students must conform to the schedule of the laboratory and perform experiments in a competent and timely manner. Failure to adequately progress in the laboratory will result in dismissal from the program, regardless of coursework grades. Students must follow established safety guidelines at all times. Experiments involving animals must follow approved animal use protocols.
iii) **Notebook.** All students are required to permanently document their original laboratory work in an appropriate notebook. All results of all experiments should be placed in chronological order in the notebook. The notebook is the property of the advisor and remains in the laboratory after departure of the student. Students may copy the contents of the books prior to departure. Failure to maintain an adequate record of laboratory experiments could result in dismissal. All material in the laboratory notebook is treated as confidential and is not to be shared with other investigators, the press or the public without the explicit consent of the major advisor.

iv) **Publications.** Students are expected to submit their research work in the form of original manuscripts to peer-reviewed journals. All manuscripts should be submitted and revised prior to graduation. It is the prerogative of the advisor and the advisory committee to compel completion and submission of manuscripts as part of the fulfillment of graduation requirements.

v) **Dissertation.** The primary record of research accomplishment is the doctoral dissertation. A completed dissertation that complies with the format approved by the graduate school must be submitted at least 30 days prior to the scheduled final doctoral examination. It is acceptable to include in the dissertation material that has been previously published by the student; however, the dissertation should stand alone as a unified document (general introduction, conclusions, consistent numbering of tables, figures and references, etc). All fees associated with the publication of the dissertation are the responsibility of the student. The student must provide a bound copy of the dissertation for the departmental library and one for the Major Advisor.

k) **Grounds for dismissal**

i) **Inadequate academic progress.** The Major Advisor and the Advisory Committee determine whether the student is making sufficient academic progress. If the committee determines that the graduate student is not making satisfactory progress it will inform the Graduate Director and the Graduate Dean, who will inform the student of dismissal. The student has the right to appeal to the Graduate Dean for reinstatement. The following deficiencies in academic progress are grounds for dismissal:

   1. Failure to follow required aspects of the plan of study or guidance of academic advisory committee.
   2. A failing grade in a course or accumulation of more than 6 credits of a grade of “C” in coursework.
   3. Failure of either the written or oral preliminary examinations.
   4. Failure to demonstrate adequate academic progress as described above.
   5. Failure of the final examination.

ii) **Regulatory noncompliance.** Failure to adhere to required laboratory safety guidelines or standard record keeping practices (laboratory notebook, safety logs, etc) could result in dismissal if the Major Advisor or Advisory Committee deems the practices to be willful, negligent or dangerous.

iii) **Academic misconduct.** Academic misconduct, as defined in the Graduate Bulletin can result in suspension or dismissal. The policies regarding academic honesty and integrity are outlined in the Creighton University Handbook for Students (http://www.creighton.edu/StudentServices/StudentHandbook/) and further discussed on the Graduate School web site at http://www.creighton.edu/GradSchool/Webs/academicintergrity.htm

iv) **Non-academic misconduct.** Non-academic misconduct, as defined in the Creighton University Handbook for Students includes abusive, slanderous, insubordinate or violent behavior as well as criminal activity. Students exhibiting these behaviors will
be subject to the disciplinary actions described in the Creighton University Handbook for Students, the consequences of which include expulsion, suspension, disciplinary probation, reprimand and other sanctions.