

## GRADUATE PROGRAMS IN PHARMACOLOGY AND ENVIRONMENTAL TOXICOLOGY (ADOPTED FALL 2003)

Pharmacology and Toxicology involve aspects of the action and interaction of drugs, chemicals and physical agents with biological systems and their constituent parts. This includes topics ranging from understanding the mechanisms of action of therapeutic and hazardous substances to the preservation and protection of health and the environment. The continuous growth and expansion of these fields has created new and exciting career opportunities in research and education. Many positions are available in academia, industry, research institutes, and governmental agencies.

The Department of Pharmacology and the School of Pharmacy at the University of Mississippi offer graduate studies leading to the degrees of Master of Science and Doctor of Philosophy with research activities in the areas of biochemical, cardiovascular, and neurobehavioral pharmacology and toxicology, as well as aquatic and environmental toxicology.

The departmental requirements reflect a flexible, research-oriented program designed to develop the interests, capabilities and potential of all participating students. Graduate students in this department have received B.S./B.A. degrees usually in biochemistry, biology, chemistry, psychology, toxicology, pharmacy, or related disciplines. The department is committed to maintaining an ethnic and gender-balanced student body. Furthermore, the faculty-student ratio is suitable to permit a maximum of personal and informal contact among members of the department and collaborating faculty, and the individual student. Course work and seminars are arranged to provide the student with a diversified background in the theories and techniques of contemporary research.

Guided and independent research is initiated as early as is appropriate for each individual student. The awarding of a Doctoral degree indicates that the faculty considers that the student has not only satisfactorily completed the didactic course requirements of the program, but also has demonstrated the capabilities of initiating and completing quality research. In order to reach Doctoral candidacy status, the student must not only master research methods, but also must develop a regular and systematic approach to keeping abreast of current scientific literature. Students must have a strong grasp of the current and historical literature relevant to their own research. They should also maintain an appreciation for the general state of knowledge in most areas of the pharmacological and toxicological sciences. Graduate degree candidates must also develop effective written and oral communication skills, the latter for use in lecture or research-seminar presentations. Although the faculty, and in particular the student's advisor, can give guidance toward developing such qualities, it is the student's responsibility, very early in his/her graduate training, to establish the habits and motivation necessary to succeed in this graduate program.

### A. DEPARTMENTAL FACULTY:

**Departmental faculty are defined in three categories:**

- 1. Primary appointments:** Those members of the department faculty who hold their primary appointment in the Department of Pharmacology.
- 2. Joint appointments:** Those faculty members who hold a primary appointment in another department or division of the University of Mississippi and a secondary appointment in the Department of Pharmacology.
- 3. Adjunct faculty:** Those faculty members who hold a primary appointment at another institution that is not necessarily an academic institution, and who also hold an adjunct appointment in the Department of Pharmacology.

### **Primary Faculty:**

John C. Matthews, Professor and Graduate Coordinator of Pharmacology and Professor of RIPS, Ph.D. University of Georgia, 1977, Biochemistry and pharmacology of ion channels in excitable tissues; glutamatergic and stress related basis of dementia; neurodegenerative diseases of the aged.

Rae R. Matsumoto, Associate Professor of Pharmacology and RIPS, Ph.D. Brown Univ, 1989 Neuropharmacology, Neurotoxicology of drugs of abuse. Sigma receptor pharmacology,.

Robert C. Speth, Professor and Chair of Pharmacology and Professor of RIPS; Ph.D. Vanderbilt University, 1976. Neuropharmacology of cardiovascular regulation; study of receptors for angiotensins in the brain and other tissues, preparation and purification of radioligands for receptor binding assays.

Anthony J. Verlangieri, Professor of Pharmacology and RIPS: Ph.D. Pennsylvania State University, 1973. General toxicology; biochemistry of atherogenesis and vascular effects of diabetes; cytoprotective actions of vitamins C & E.

Kristine L. Willett, Ph.D. Texas A&M University, 1997. Assistant Professor of Pharmacology and RIPS, Environmental Toxicology Research Program, Toxicity of environmental contaminants of aquatic and marine organisms and characterization of the role of cytochrome 1B1 in cancer sensitivity.

Marvin C. Wilson, Ph.D. University of Michigan, Professor of Pharmacology and RIPS, Associate Dean for Academic and Student Affairs.

Sean M. Wilson, Ph.D. University of California, Davis, 1998 Assistant Professor of Pharmacology and RIPS. Pathophysiology of smooth muscle with special emphasis on aging and asthma; Ion channel pharmacology and physiology.

### **Joint Faculty:**

Asok Dasmahapatra, Ph.D. University of Calcutta, 1981. Research Assistant Professor in RIPS, Assistant Professor in Pharmacology. Use of fish models to study molecular mechanisms of ethanol-induced birth defects and to develop compounds that protect against these birth defects.

Mary L. Haasch, Ph.D. University of Wisconsin-Milwaukee, 1989. Research Associate Professor in RIPS, Associate Professor in Pharmacology, Coordinator Environmental Toxicology Research Program. Mechanisms of peroxisome proliferation, biotransformation, regulation of gene expression, biomarkers of exposure, effect, and susceptibility; aquatic toxicology, comparative toxicology, and developmental toxicology.

Mark T. Hamann, Ph.D. Univ Hawaii, 1992. Research Associate Professor in RIPS, Associate Professor in Pharmacology. Marine natural products research.

Christopher A. McCurdy, Ph.D. Univ Georgia, 1998. Research Assistant Professor in RIPS, Assistant Professor in Pharmacology. Synthesis and characterization of novel ligands for kappa and other opioid receptor subtypes.

Karen E. Sabol, Ph.D., Emory University, 1988. Associate Professor in Psychology with a joint appointment in Pharmacology. Research Interests: Effects of methamphetamine on behavior, temperature and neurochemistry.

Kenneth J. Sufka, Ph.D. Iowa State Univ, 1990. Associate Professor of Psychology and Pharmacology, Neurochemical substrates of chronic pain; validation of novel animal models and paradigms; models of anxiolytic assessment; models of analgesic assessment.

Larry A. Walker, Ph.D. Vanderbilt University, 1979. Professor: Director of the National Center for the Development of Natural Products; Ph.D. Renal/cardiovascular pharmacology; cell culture methods to screen for biological activities in natural products, including discovery and bioassay-directed isolation.

#### **Emeritus Faculty:**

W. Marvin Davis, Professor Emeritus; Ph.D. Purdue University, 1955. Neuropharmacology, Behavioral pharmacology, and toxicology of drugs affecting the brain.

Dennis R. Feller, Professor Emeritus, Ph.D., University of Wisconsin, 1968. Biochemical pharmacology; mechanisms of action of drugs which are useful for the treatment of asthma, hypertension and atherosclerosis; characterization of ligands on receptor-mediated signaling pathways for alpha and beta-adrenergic receptors, and peroxisome proliferator activated receptors.

Henry Pace, Professor Emeritus, Ph.D. Texas A&M University. Medical Nomenclature

I. Wade Waters, Professor Emeritus; Ph.D. University of Florida, 1963. Acute toxicology of drugs of abuse; and cardiovascular physiology and pharmacology.

#### **Adjunct Faculty:**

Duane D. Miller, Ph.D. University of Washington-Seattle, 1969. Van Vleet Professor, Chair and Associate Dean for Graduate Research Studies, University of Tennessee-Memphis. Research into cancer and obesity.

Sayed Ali, Ph.D. National Center for Toxicological Research, Jefferson, AR, Neurotoxicology.

Andrew C. Scallet, Ph.D. National Center for Toxicological Research, Jefferson, AR, Neurotoxicology.

Christy M. Foran, Ph.D. Cornell University, 1998. Assistant Professor of Biology, West Virginia University. Research focuses on the ways environmental stimuli impacts the development and expression of adult reproductive phenotypes. This work encompasses basic studies of physical and social control of the neuroendocrine system and the resulting reproductive behavior and an applied component involving the potential of endocrine disrupting chemicals to regulate reproduction.

#### **B. RESEARCH FACILITIES:**

Research facilities available to departmental graduate students include but are not limited to the following. Some laboratory areas and analytical equipment are shared with units of the Research Institute of Pharmaceutical Sciences (RIPS), specifically the National Center for the Development of Natural Products (NCP), and Center for Environmental and Community Health Research (ECHR). The availability of excellent analytical capabilities is evidenced by the fact that the Environmental Toxicology Analytical Laboratory routinely participates in the National Research Council of Canada/National Oceanic and Atmospheric Administration Intercomparison Studies. State-of-the-art analytical equipment is available to conduct chemical analyses of a wide range of agents in biological and environmental

samples. In addition to these contemporary analytical facilities, the Department has laboratory space for conducting both mammalian and aquatic pharmacological and toxicological studies. The vast majority of the mammalian studies utilize rodent species or immortal cell-lines. The aquatic toxicology lab is equipped for specialized research with aquatic invertebrate and vertebrate species. A mammalian tissue culture laboratory is also available. Equipment is available for *in vitro* and *in vivo* testing of various physiological parameters in mammalian and aquatic species as well as for biochemical experimentation. A molecular modeling laboratory and other support facilities are available in the School of Pharmacy to enhance the activities of this Department. The National Center for the Development of Natural Products contains laboratories, animal housing areas, and chemistry/pharmacy/biology library as well as state-of-the-art teaching facilities.

### **C. DEPARTMENTAL ENTRANCE REQUIREMENTS FOR THE MASTERS AND DOCTORAL PROGRAMS:**

1. 3.0 on a 4.0 GPA scale.
2. An official, composite GRE score (verbal plus quantitative sub-scores) of at least 1050 (400 minimum for verbal plus 500 minimum for quantitative) is required for entry into the Doctoral program. Admission to the Masters program requires a composite GRE score of 950 including the above stated minimal values. The composite score (verbal and quantitative sections) must be achieved on an examination taken on the same date.
3. Two letters of recommendation from the faculty of the department or school in which the applicant received his/her B.S./B.A. or Masters degree, at least one of which should be from a research supervisor or other professional familiar with the applicant's research skills.
4. An official TOEFL score of 600 is required of applicants for both the MS and PhD programs, whose bachelors or professional training was obtained in a country in which English is not the official language. Students who meet the TOEFL criterion, but who still have obvious English language deficiencies may be required to enroll in EFL 100, or enroll part-time in the Intensive English Program.
5. A Statement of Purpose for enrollment into the M.S. or PhD. Program.
6. Required undergraduate prerequisites:
  - A. Physiology
  - B. Biochemistry or Cell Biology
  - C. Advanced Mathematics at the level of Calculus
  - D. Organic Chemistry

Students lacking one or two of the above courses (6), but who otherwise meet departmental requirements may be admitted as Conditional students to the graduate program with the understanding that such deficiencies will be rectified at the earliest possible date. Students lacking more than two can be admitted as Qualifying students.

Under special circumstances the department may waive certain requirements 1-6.

Applications will be reviewed on the basis of grade point average, GRE results, letters of recommendation, statement of purpose and when felt necessary, the results of personal interviews. It is advantageous, when possible, for the applicant to visit the department. If this is not possible either because of time, distance, or financial constraints, (the department will provide on-campus

accommodations), and if an interview is thought to be necessary, it may be arranged at a location distant from the University with someone whose judgment is respected by the department, e.g., an alumnus of the Doctoral program.

The department does not use a predetermined formula for decisions on acceptance. Rather, all available information is considered in making final decisions. The quality of the undergraduate institution attended, grades in specific courses, temporal grade pattern and extenuating circumstances for poor performance may be considered when taking final action on an application. Some applicants, because of unusual undergraduate training (e.g., advanced training in biochemistry or toxicology) or prior work experience, may be admitted to this program in advanced standing. Recommendations regarding advanced standing are made by the Graduate Admissions, Support and Retention Committee.

New Students are normally admitted into the program in the fall semester. To be assured of consideration for admission in the fall semester, applications must be received in full (application form which can be obtained from the Graduate School, official transcripts from all previous work, two letters of recommendation, statement of purpose, official GRE and TOEFL score reports) by the Office of Admissions and Records by March 1. *Under special and unusual circumstances applications received after these deadlines can be considered for fall admission.* For fall semester admissions, decisions including availability of financial aid will be communicated in writing to the applicant by April 15.

For students requesting entry into the graduate program in the Spring Semester, an ad-hoc meeting of the Departmental Graduate Admissions Support and Retention Committee will be called to evaluate student's requests.

It is the policy of the department to limit acceptance into the graduate program to those students who have the potential for becoming outstanding scientists. Attempts will be made to secure financial aid for every accepted applicant; however, this may not be possible. Applications will be reviewed by the Graduate Admissions, Support and Retention Committee composed of departmental faculty. With input from the faculty, this committee will make recommendations on admissions and financial support to the departmental chair. Decisions of financial aid for RIPS-ECHR/NPC research assistantships and teaching assistantships will be made by the department chair. The awarding of financial aid will be based on the entering qualifications of the applicant. One should not assume that if he/she is initially awarded financial aid that this will continue as an automatic process. Recipients of financial aid will be reviewed annually (upon termination of Spring Semester-see below) and such aid may be renewed or terminated depending on the student's academic, teaching, and research performance. The amount of financial aid may vary depending on the source of funds, the required duties of the assistantship, length of time the student has been in the program and prior academic and research performance. Except under unusual circumstances, students awarded financial aid will not be permitted to engage in outside employment. If unusual circumstances indicate the need for outside employment this may only be undertaken with the prior knowledge and approval of the department chair.

#### **D. DEPARTMENTAL ACADEMIC REQUIREMENTS**

All students are required (except under unusual circumstances) to receive a grade of B or better in all required courses offered by this department. Failure to do so will necessitate repeating or substituting a course of equal difficulty or value and obtaining a B or better grade. Substitution courses will be proposed by the graduate student, in discussion with his/her advisor, and must be approved by departmental faculty vote. A graduate student receiving two or more grades below a B grade in required core courses may be dismissed from the program.

If a student's cumulative graduate GPA falls below 3.0, but not lower than 2.5, the student will be placed on probation for one semester. The student must bring his cumulative graduate GPA up to 3.0 by the end of the succeeding semester. Failure to achieve such competence may result in either dismissal from the graduate program and/or termination of financial aid unless special circumstances warrant a review of the student's academic record. A cumulative graduate GPA dropping below 2.5 at any time may result in immediate termination.

The faculty reserves the right to dismiss students from the program who do not appear to be fulfilling their expected academic or research promise or who fail to demonstrate effective communication skills. Recommendations for termination will not be capricious or arbitrary nor abrogate student rights. Reasons for termination include, but are not limited to: lack of academic performance; lack of progression toward research goals; academic dishonesty; and professional misconduct. A student being terminated will receive written notification of this decision including the reason(s) for termination. The student has the right to appeal in writing to the Chair of the department within 15 days of receipt of notification of termination, for reinstatement into the program.

Selection of a graduate advisor should be made by Doctoral students no later than the beginning of the fall semester of the second year in residence. Students are encouraged to make this mutually agreeable selection as soon as they have chosen the research area in which they wish to pursue their thesis or dissertation research. This decision is to be communicated in writing to the Department Chair at that time. The choice of a graduate advisor for Masters students is to be made within the first year of enrollment.

The student's formal course of study should be prepared with the guidance of the graduate advisor and approved by the Department Chair. If no obvious direction for the student's graduate research program has developed by midway through the student's second year in residence, the Department Chair, upon the advice of the Graduate Admissions, Support and Retention Committee will assign with prior consent of the faculty member, the student to a graduate advisor. A student may change advisors at any time during the program if his or her research interests change, or for personal reasons.

## 1. Course Requirements for Doctoral Students

The following is a list of core courses which must be completed by all students enrolled in the Doctoral program. The transcript of every Doctoral student must reflect a minimum of 18 hours of dissertation credit. After a student is admitted to candidacy, enrollment in course work or dissertation must be continuous, including an enrollment of at least 3 hours in the term in which the degree is granted.

Course List:	Credit Hours:
PHCL 541, Problems in Pharmacology	1
PHCL 563, 564 Introduction to Pharmacology	4, 4
PHCL 643, Seminar	1*
PHCL 651, Directed Studies in Pharmacology and Toxicology	1**
PHCL 652, Directed Studies in Pharmacology and Toxicology	**
PHCL 661, Advanced Physiology	4
PHCL 669, Physiological Chemistry	4
PHCL 675, 676 General Principles of Pharmacology and Toxicology I	4, 4
PHCL 797, Dissertation	18
PSY 501, Statistics I (or equivalent)	3

## 2. Course Requirements for Masters Students

The following is a list of core courses which must be completed by all students enrolled in the Masters program. These are in addition to seminar requirements and a minimum of 6 hours of thesis credit.

Course List:	Credit Hours:
PHCL 541, Problems in Pharmacology	1
PHCL 563, Introduction to Pharmacology	4
PHCL 643, Seminar	1*
PHCL 651, Directed Studies in Pharmacology and Toxicology	1**
PHCL 652, Directed Studies in Pharmacology and Toxicology	**
PHCL 661, Advanced Physiology	4
PHCL 669, Physiological Chemistry	4
PHCL 675, General Principles of Pharmacology and Toxicology I	4
PHCL 697, Thesis	6
PSY 501, Statistics I (or equivalent)	3

## 3. \*Seminar Requirements

Graduate students are required to enroll in PHCL 643 (seminar) each fall and spring semester (one hour). Graduate students who are performing thesis or dissertation research, or internships at remote locations will be excused from the requirement to enroll in seminar during the full semesters they are physically away from campus. Grading will be on a pass or fail basis. Three un-excused absences will constitute failure.

Graduate students will be required to make at least one seminar presentation per year. The instructor of record for the seminar course will, at his or her discretion, determine the format. Thesis or dissertation prospectuses and defenses may be counted toward the annual seminar requirement.

## 4. Teaching Activities

Even though the primary objective of the graduate program is to train researchers, it is also acknowledged that many potential post-graduate positions will require a teaching component. Although the department would like to ensure that all graduates have some experience in teaching via serving as laboratory assistants, this may not be feasible. This experience may be obtained either by assisting in the departmental undergraduate physiology and pathophysiology laboratories (PHCL 341, 342), by presenting a minimal number of lectures in required undergraduate courses (PHCL 341, 343, 381, 443, 444) or by serving as teaching assistants in other School of Pharmacy courses. Students, regardless of their source of support, may be expected to participate in this activity.

## 5. \*\*Research Activities

Participation in research activities prior to undertaking the dissertation or thesis work is strongly recommended. Research projects which come before the start of dissertation or thesis research may or may not be related to, or apply to, the dissertation or thesis. It is the intent of this graduate program to have all graduate students engaged in research throughout their graduate training. To this end graduate students are required to enroll in PHCL 651 (Directed Studies in Pharmacology or Toxicology I) for 1 credit hour during their first fall semester in the department graduate program. PHCL 651 will be organized as a rotation through each of the active research laboratories in the department during the

course of the semester with a predetermined list of exercises to be completed in each laboratory. The instructor of record for the course will cycle through those faculty members with active research laboratories each year.

During semesters that students are not enrolled in PHCL 651, thesis (PHCL 697), or dissertation (PHCL 797), and in which they are taking 11 or fewer credits in other course work, they will be required to enroll in PHCL 652 (Directed Studies in Pharmacology or Toxicology II) (1 credit hour). The graduate coordinator, in consultation with the student and the faculty, will assign the faculty member with whom the student will work in PHCL 652. The assigned faculty member will direct the research-related activities, which may include any appropriate combination of laboratory and literature exercises.

#### **6. Requirements for Faculty Serving on Graduate Committees:**

All individuals serving on thesis and dissertation committees for graduate students in the department of Pharmacology must be members of the University of Mississippi graduate faculty. Faculty holding primary appointments or joint appointments in the department may serve as thesis advisors; dissertation advisors must also be full members of the University of Mississippi graduate faculty.

#### **7. Thesis and Dissertation Committee Composition:**

Committee composition for thesis is the student's major advisor, who serves as the committee chairperson, plus at least 2 other members, at least one of whom must be a Department of Pharmacology faculty member. Committee composition for dissertations is the student's major advisor, who serves as the committee chairperson, plus at least 3 other members, at least 2 of whom must be members of the Department of Pharmacology faculty, and at least one of whom must be a member of the graduate faculty of the University from a department other than Pharmacology.

#### **8. Formation of Thesis or Dissertation Advisory Committee:**

By the end of the first year in residence each student should have in mind the research laboratory in which he or she wishes to perform their thesis or dissertation project. Although a specific dissertation project may not yet have been developed, a general area of research interest should have been identified. At the time of choosing a thesis or dissertation topic, which in the latter case, should be no later than the time of successful completion of the comprehensive examinations, the student in consultation with his/her major advisor will choose a thesis or dissertation advisory committee.

#### **9. Annual Evaluation of Student's Progress:**

Upon completion of spring semester each year, each graduate student is to provide to their advisor, and the Graduate Admissions, Support and Retention Committee, a report of their activities since the preceding June 1. This report should consist of 1 to 3 typed pages and include, but not be limited to, the following information: (1) academic activities by semester and grade received, (2) service performed, e.g., teaching, grading, assistance in demonstrations, (3) research activities, including techniques learned, brief abstract of results, (4) other professional activities, e.g., meetings attended, papers submitted or presented, manuscripts published, and (5) seminars presented (topic and audience).

An annual written evaluation of each student will be prepared by his/her advisor and submitted to the Graduate Admissions, Support and Retention Committee by May 30. A copy will be presented to the student and the report will be discussed at a faculty meeting called for that purpose. The student retains the right to respond to the evaluation if he/she feels it is necessary. If the evaluation indicates problems,

the student will be notified of the concerns of the faculty and steps will be suggested which the faculty feel will be helpful in remedying the identified deficiencies.

#### **E. MASTER OF SCIENCE DEGREE REQUIREMENTS**

For a description of the graduate school requirements, the student is referred to the most recent edition of the graduate catalog. Departmental requirements are discussed below. The student will present a thesis defense open to all graduate students and faculty. The defense will consist of two parts: (1) a seminar on the project reviewing background, methods, results, and conclusions. At the conclusion of the seminar, the audience will be excused, and (2) the thesis candidate will then be examined by the thesis committee on his/her project and any general area of training which could pertain to the project. The thesis advisory committee will then vote and may: (a) approve the completed work including the thesis and defense, (b) approve the completed work and thesis, but reject the defense (in which case a second defense would be required), (c) approve the research but not the thesis and defense (in which case the thesis would be revised, as directed by the committee, followed by a second defense), or (d) reject the work, thesis, and defense (in which case the student would be required to do additional research or redo some of the original research, as directed by the committee, followed by rewriting of the thesis and a second defense). If upon the second defense the thesis, research or defense is again not approved, the student will be dismissed from the program.

#### **F. DOCTOR OF PHILOSOPHY DEGREE REQUIREMENTS**

Before a student is officially accepted as a Doctoral candidate, he/she must have completed (1) the required didactic course work with a GPA of 3.0 or better including no outstanding I grades and (2) passed oral and written comprehensive examinations.

**Written Comprehensive Examination:** The written comprehensive examination will be assembled by the comprehensive examination coordinator, designated by the department chair, from questions submitted by all of the faculty of the department holding primary or joint appointments who choose to do so. The comprehensive examination coordinator must be a full member of the graduate faculty of the University of Mississippi who holds a primary appointment as a Department of Pharmacology faculty member, and who is not the major advisor for the student. The examination will cover the material of the core curriculum and any other areas that the examination coordinator, in consultation with the student's major advisor, and the department faculty deem relevant and appropriate for the examination. When appropriate for these other areas of examination, additional questions may be solicited by the examination coordinator from qualified individuals who are not members of the departmental faculty. The examination will be administered in three, 4 hour increments over the course of a one week period, generally from 8 – 12 AM: M, W, F. The examination will be organized in sections (up to 6), and the student will take 2 sections of the examination on each day. Each section will be assembled and graded on the assumption that it will require approximately 2 hours of examination time to complete. Each section of the examination will cover a general topic area and may include questions from only one or more than one questioner. The student will be informed no later than the end of the week before the examination starts of the identities of the individuals whose questions will appear on each section of the examination. Individuals who have questions on the examination will complete grading of those questions within three days of receipt of their portion of the completed examination from the examination coordinator. A grade of at least 70% overall, and not less than 50% on any section of the examination is required to pass. Failure to meet this minimum standard will necessitate retaking all, or portions of, the examination as determined in a meeting of at least 2/3 of the graduate faculty who hold primary or joint appointments in the department. Only one examination retake will be permitted. Failure to meet the minimum standard on retake will constitute dismissal from the doctoral degree program. Retakes will be administered within 2-4 weeks of the original examination.

**Oral Comprehensive Examination:** The comprehensive examination coordinator will chair a committee of at least ½ of the faculty who hold primary or joint appointments in the department, plus any outside questioners who are invited to participate by the examination coordinator. The oral examination will be administered approximately 2 weeks after successful completion of the written examination. After seeking input from any examiners who are not members of the Department of Pharmacology faculty, only members of the Department of Pharmacology faculty will vote on the outcome of the oral examination. Passage will require a majority vote of the graduate faculty who hold primary or joint appointments in the department who are present for the examination. In the event that the student's performance was not acceptable the faculty will determine remedial action to be completed by the student followed by a retake of the oral examination. The retake will be evaluated by the same procedure as the original attempt. Failure to meet the minimum standard on retake will constitute dismissal from the doctoral degree program

### **Admissions to Candidacy:**

There must be at least one intervening semester between the semester in which the comprehensive examinations are successfully completed and the semester in which the final oral examination is given. The entire summer session (both terms) is considered to be the equivalent of one semester. Upon notification to the Graduate School that a Doctoral student has successfully completed all portions of the comprehensive examinations, the student will be admitted to candidacy. After admission to candidacy, enrollment for a minimum of 3 credit hours per semester must be continuous in Fall and Spring Semesters.

At the time of admission to candidacy, the student's tentative dissertation topic and dissertation committee must be registered in the Graduate School. As soon as the dissertation problem is identified and a thorough literature search is completed, the student will present to his/her committee, a written dissertation prospectus. This prospectus is to be provided in its entirety to each committee member at least two weeks prior to the initial meeting of the committee and is to include sections entitled Background, Preliminary Data, Objectives, Methodology with detailed sections on Research Design and Data Evaluation and Budget. At this initial meeting, the student will review and defend the prospectus.

It is recognized that at this point the student is not usually able to give a complete defense of the proposed work. The purpose of this requirement is to permit a student's committee to become familiar with the problem, to express opinions on the methods for accomplishing project objectives, to critically evaluate study design and statistical methods proposed and to comment on the scope or depth of the research.

The Graduate School should be advised of this meeting by the dissertation director no later than two weeks prior to the event. A single negative vote in the committee will require negotiation among the committee members in order to achieve reconciliation of the point(s) of objection. Only if the committee cannot agree on the merits of the prospectus and, through reasoned discussion, accept the prospectus unanimously, a review process will be invoked or the committee reformulated by the dissertation advisor. When any member of the committee believes that a substantial change in the approved research plan has been made, the committee will be reconvened. Unanimous approval of any substantial revision is required. A report of any substantial changes will be filed in the Graduate School.

### **Dissertation Defense:**

Although a unanimous vote of the committee is necessary in order to accept the prospectus, a majority vote only will be required on the final dissertation defense. After approval of a research proposal

by the committee, subsequent meetings of the committee shall be held at the initiation of the committee chair, the student, the department chair or any member of the committee. When the research is considered by the student and his/her advisor to be essentially completed, a committee meeting shall be held and committee permission granted that the research can be terminated. This meeting is to be held prior to preparation of the first draft of the dissertation. Each member of the committee must receive a draft of the completed dissertation at least two weeks before the defense to allow changes to be made if the committee feels they are needed.

The dissertation defense, open to the public, will consist of two parts: (1) a seminar on the project reviewing background, methods, results, and conclusions. At the conclusion of the seminar, non-committee members will be excused, and (2) the doctoral candidate will then be examined on his/her project and any general area of training which could pertain to the project. The dissertation committee will then vote and may: (a) approve the completed work including the dissertation and defense, (b) approve the completed work and dissertation, but reject the defense (in which case a second defense would be required), (c) approve the research but not the dissertation and defense (in which case the dissertation would be revised, as directed by the committee, followed by a second defense), or (d) reject the work, dissertation, and defense (in which case the student would be required to do additional research or redo some of the original research, as directed by the committee, followed by rewriting of the dissertation and a second defense). If upon the second defense the dissertation, research or defense is again not approved, the student will be dismissed from the doctoral program.

If the student has not previously done so it is required that manuscript(s) from the dissertation research, suitable for publication in an appropriate peer reviewed journal, will be submitted to the dissertation advisor for subsequent submission for publication.

The dissertation defense must be held at least two weeks before the dissertation is to be submitted to the Graduate School Office in order to allow time to make any changes required by the committee. The dissertation defense must be completed while the student is in residence. The degree of Doctor of Philosophy will not be conferred earlier than one semester after admission to candidacy for the degree. The candidate is expected to be present for the commencement ceremony at which the degree is conferred. The student should not begin employment until after the research is completed and the dissertation is accepted.

## **G. GRADUATE SCHOOL POLICIES AND PROCEDURES FOR GRADUATE ASSISTANTSHIP ADMINISTRATION**

Herewith are stated policies of the University of Mississippi governing the appointment, training, supervision, evaluation, reappointment, and rights and privileges of graduate assistants. (For the purpose of this document, a Graduate Assistant is defined as a student enrolled in and actively pursuing a graduate degree and employed in an academic unit or academic support unit on assignments that enhance professional development.) Regardless of the source of funding for a graduate assistantship, these policies apply. Individual departments will have specific procedures and practices in accord with these general policies. Because of the variation in the duties of different types of graduate assistants and in the duties needed for different departments, only general statements and examples are given below.

Graduate assistants are considered to be both students and employees. They are important contributors to the mission of the University through the teaching of lower-division courses, laboratory and review sessions, the performance of research, and the administration of certain services. At the same time, graduate student assistants are actively pursuing an advanced degree and their duties as graduate assistants should enhance their overall professional preparation.

The stipends associated with graduate assistantships provide the financial support for those individuals to attend graduate school, and, for the University, provide a means of recruiting highly qualified students into graduate programs.

In the statements below, the term graduate assistant refers to all types of assistants. Likewise, the general term, department, refers to any academic department, research institute, administrative or service office, or signatory faculty member employing a graduate assistant. When statements apply to certain types of graduate assistants or employing units, this will be indicated.

## **TYPES OF GRADUATE ASSISTANTSHIP POSITIONS**

The following types of positions are available through the University for the employment of graduate students.

**Graduate Instructor:** This is an appointment to serve as the primary instructor of an undergraduate course. Such courses will generally be multi-sectional and the graduate instructor will be supervised by a permanent faculty member. As stated under qualifications a graduate student employed at this level must meet specific qualifications.

**Graduate Teaching Assistant:** This is an appointment to serve as a proctor for a laboratory or discussion session, or as a grader. A teaching assistant is not responsible for assignment of final grades in a course.

**Graduate Administrative Assistant:** This is an appointment to perform various types of administrative or service tasks for an academic department or university office or program.

**Graduate Research Assistant:** This appointment is made by an academic department, research institute, or faculty member (having a funded research project) to a student to assist in performing various types of research activities.

## **QUALIFICATIONS**

**Academic Qualifications:** To be eligible to receive any of the above graduate assistantships, a student must be admitted as a full standing or conditional student in a graduate program within the University. The student must be enrolled, during the semesters in which the appointment is in effect.

**For Graduate Instructors:** Students who are appointed as Graduate Instructors must have completed a minimum of 18 hours of graduate course work (with a minimum grade point average of 3.0) in the assigned field of instruction. Exception can be made for relevant non-academic experience or the possession of specific skills. Exceptions must be approved by the Graduate Dean's office before the appointment is made.

**English Language Requirements:** Students for whom English is not their native language will be required to fulfill both the TOEFL (Test of English as a Foreign Language) score requirement for admission into the graduate school and the TSE (Test of Spoken Language) or SPEAK (institutional test of spoken English) score requirements for appointment to a teaching position. The minimum requirements for the TOEFL, TSE or SPEAK examinations are to be determined by the Graduate School; individual departments may require higher scores for their appointments.

## **PROCEDURES FOR APPOINTMENT AND ADMINISTRATION**

**Appointment Levels and Periods:** Ordinarily, graduate assistantship appointments are made as either one quarter or one-half positions. This implies a 10 hour to 20 hour work effort per week. Depending on the type of assigned duties, the actual work time may vary and will be determined by the department/supervisor. (Only under special circumstances may a student be employed on a basis of more than one-half time. See the Faculty and Staff Handbook for an explanation of these circumstances. Appointments for less than one-quarter time may also be made).

Appointments are made for a one-semester or two-semester (academic year) period. (Research assistantship positions may be made for any duration up to a 12-month period.) Students who are making good progress toward their graduate degree and who receive good evaluations will usually be considered for reappointment; reappointment to a position is not made automatically from one period to the next and depends on the needs of the department/supervisor and the availability of funds (procedures for reappointment are outlined in the section so titled. Departments may choose to establish a maximum number of semesters of support for their students.

**Enrollment Requirements:** Students who receive at least a one-quarter graduate assistant appointment must be enrolled for at least six graduate hours during the semester(s) of employment. The maximum level of enrollment is 12 hours for students with one-quarter or one-half time service appointments. (For students with one-half time appointments, a maximum of 9 hours can be in course work; the balance may be in thesis, dissertation, or recital hours). Students with less than one-quarter time appointments must enroll for at least three hours (and a maximum of fifteen hours) of graduate course work. The Faculty and Staff Handbook lists these and additional regulations pertaining to course load for graduate student assistants, including regulations governing the summer session and regulations governing the enrollment levels of three quarter time appointments. Graduate assistants who have a one-half time or greater appointment are expected to devote full time to their combined assistantship duties and degree program and not be employed outside of the University.

**Appointment Procedures:** Appointments to graduate assistantships are recommended by an academic department, research institute, administrative or service office, or a funded faculty member. Appointments are made through the Department of Personnel, contingent on the availability of funds. Personnel form # 7 is used for the appointment of Graduate Instructors; personnel form # 6 is used for the appointment of other graduate assistants. [All University personnel must complete a Personnel form I-9 in order to be employed.] Personnel forms # 6 and # 7 are forwarded by departments to the Graduate School, where a check is made of the proper admission status of the appointee and, in the case of Graduate Instructors, the requisite 18 hours of graduate course work in the area. In order to facilitate the appointment process in a timely manner, departments may submit to the Graduate School, in advance of the appointment period, the names of potential graduate assistants. The Graduate School will verify to the department the qualifications of these students to receive graduate assistantship appointments. The Personnel forms with attached copy of the verified list may be sent by the department chair to Personnel. Copies of Personnel forms # 6 and # 7 will be provided to the Graduate School in order to complete the appointment process. When an exception to the 18 hour rule is needed for the appointment of a Graduate Instructor, a department head must justify the qualifications of the candidate in a written request to the Graduate School. This request must be signed by both the department head and the dean of the school/college in which the graduate assistant will be enrolled. The Graduate School will advise the Personnel Office of the eligibility of the student to be appointed to a teaching position.

**Appointment Letters:** The terms of individual appointments will vary from department to department and it is the responsibility of the administrative head of a department to state in writing the terms of appointment to new appointees or to students who are appointed to new assistantship positions. The letter should provide information regarding the following conditions, where appropriate:

- a. the title, percentage time, and period of the appointment;
- b. the stipend level for the above period and the availability of supplemental fellowships, including conditions for receiving a tuition scholarship;
- c. the minimum and maximum required course enrollment during the appointment period;
- d. evaluation procedures and required course enrollment during the appointment period;
- e. procedure for reappointment;
- f. deadline for acceptance of the assistantship offer;
- g. assistantships are usually subject to taxation and must be declared as income;
- h. date on which the appointee is required to report for work duty or training;

The following information should also be provided, if it is applicable or known at the time the appointment is made:

- i. a description of the duties for the assistant;
- j. the name of the faculty supervisor;
- k. required training sessions;
- l. required English tests or courses (for international students).

In addition, this letter may include an indication of any awards for superior performance, departmental regulations regarding the maximum length of support, and any resources which are available to the appointee for the performance of assigned duties (i.e., the availability of office space, clerical services, computers, or teaching supplies).

A copy of all appointment letters should be sent to the Graduate School. In the case of international students, a copy of the appointment letter should also be sent to the International Admissions Office so that immigration forms can be processed.

**Conditions for Termination:** The appointment of a graduate assistant may be terminated by the University, upon the recommendation of the department head, for the following reasons:

- a. incompetent job performance or neglect of duty;
- b. misconduct that is job-related;
- c. moral turpitude;
- d. physical or mental ailment or condition which significantly impairs or limits job performance and cannot reasonably be accommodated;
- e. financial exigency or discontinuance of the work for which the appointment is made;
- f. mutual agreement;
- g. failure to maintain a graduate grade point average of 3.0 and/or failure to maintain the minimum enrollment obligation.

For the purposes of termination, Personnel Form #4 is used.

**Obligations of the Department Head to the Appointee:** It is the duty of the department head to consult with the graduate assistant to attempt to resolve any problems of performance and reappointment. Except in the instance of Graduate Research Assistants, the department head is responsible for providing written correspondence to a graduate assistant regarding: (1) any change in the terms of appointment, including notification of reappointment for additional periods, (2) evaluation of job performance, and (3) any complaints received by the faculty supervisor or department head concerning the student's job performance. In the case of Graduate Research Assistants who are supported by extramural funds and under the direct fiscal authority and supervision of an individual faculty member, the process may be less formalized. To every extent possible, however, the rights of the student should be protected.

**Other Guidelines:** Matters involving academic grade appeals or discipline, involving students in classes taught by Graduate Instructors or Graduate Teaching Assistants, will follow the procedures outlined in the M-Book.

**Role of the Graduate School:** All records pertaining to the appointment, supervision, and evaluation of graduate assistants are maintained by the Graduate School. Copies of appointment letters, the name of the graduate assistant's supervisor, and letters of periodic evaluation are to be sent by the departments to the Graduate School. The Graduate School confirms the admission status and, for Graduate Instructors, that 18 hours in the teaching area have been completed.

## **TRAINING, SUPERVISION, AND EVALUATION**

**Orientation Program:** For Graduate Instructors and Graduate Teaching Assistants, departments will provide an orientation program for new appointees and for those for whom teaching duties will be changed. This orientation program will differ among the departments since teaching duties vary. For Graduate Administrative Assistants and Graduate Research Assistants, training will usually be provided, as necessary, by the supervisor.

**Supervision Evaluation, and In-service Training Workshops:** For all Graduate Instructors, Graduate Teaching Assistants, and Graduate Administrative Assistants, a faculty supervisor will be designated by the department. The supervisor is responsible for assuring the proper training of assistants and for evaluating their performance. Informal evaluations and recommendations may be provided by the supervisor to the assistants during the appointment period. At the end of the period, a written evaluation, prepared by the department head in consultation with each student's supervisor, will be provided to each graduate assistant.

**Instructor and Graduate Teaching Assistant:** These evaluations are used to aid the student in the development of teaching skills and for decisions regarding reappointment. In-service training workshops, in addition to the orientation program, will also be provided for Graduate Instructors and Graduate Teaching Assistants.

Graduate instructors may also be evaluated by university-wide student-teacher evaluation surveys or by similar departmental surveys. These should not substitute for the above written evaluation.

## **REAPPOINTMENT PROCEDURES**

The following criteria will determine the eligibility of Graduate Instructors, Graduate Teaching Assistants, Graduate Research Assistants, and Graduate Administrative Assistants for reappointment:

- a. evaluations of performance by the supervisor;

- b. recommendation of the student's academic advisor;
- c. a minimum graduate grade point average of 3.0 in each semester of enrollment (or in the Law School the requirements for graduation);
- d. length of cumulative support by an assistantship and time in a degree program (optional departmental policy);
- e. availability of funding and continuance of the work for which the appointment is made;
- f. other written criteria as determined by the department making the appointment.

The degree of emphasis placed on each criterion will be determined by the department. If the above criteria are met satisfactorily, students can expect an extension of their assistantship at the original stipend level. The actual procedure for reappointment will differ among departments. In some cases, a student must formally apply for reappointment by a specified date preceding a new period. In other cases, reappointment may be awarded in the letter of evaluation. Individual departments will explain their reappointment procedure in the initial appointment letters.

## **RIGHTS AND BENEFITS**

**Rights Pertaining to Assistantship Duties:** The department employing the graduate assistant has the responsibility of providing the space, materials, equipment, and services necessary to carry out assigned duties.

**Tuition Waivers and Scholarships:** Students who receive any graduate assistantship providing at least \$600 per semester and who are not residents of Mississippi receive a waiver of the nonresident tuition fee for themselves and their spouses. All students (resident and non-resident) receive a 75% resident tuition waiver when their stipend is less than \$7,200.00 per year and a 92% resident tuition waiver when it is greater than \$7,200.00 per year.

**Right to Written and Timely Communication Regarding Appointments:** All appointment and reappointment offers must be made in writing by the department head to the student. The appointment of new graduate assistants should be made as early as possible, preferably before June 1 for the following fall semester; however, due to uncertainty regarding the availability of funds, a department may be unable to offer such appointments until a much later date. Offers of reappointment to students should be made as soon as possible. For example, reappointment offers for the fall semester should be made within one month following the completion of the spring semester.

**Grievance Procedure:** Graduate assistants who have grievances regarding their appointment and assigned duties should follow the Graduate Assistant Grievance Procedure.

**Vacation, Sick Leave, and Retirement Benefits:** Because graduate assistants are temporary employees, they are not eligible to accrue any vacation, sick leave, or retirement credit or to participate in employee insurance programs. Graduate assistants are covered under the University Worker's Compensation program.

**Miscellaneous Benefits:** Graduate assistants have a priority in obtaining married student housing apartments. Graduate assistants who are enrolled for six semester hours or less may, at their option, pay the fixed registration fee and thereby become eligible for services covered by charges for health service, general activities, and physical education and athletics.

## **L. FINANCIAL SUPPORT**

Financial aid for graduate students may take the form of research or teaching assistantships or

non-service fellowships. Following recommendation by the Department Chair, the selection of recipients of assistantships will be determined by the Graduate Admissions, Support and Retention Committee.

In addition to major non-service fellowships provided by the University and other agencies, the Graduate School also awards Honors Fellowships. These academic year fellowships are available to qualified students pursuing graduate studies in a degree program. Recipients of one of these fellowships must also receive departmental assistantships and/or other fellowships exceeding \$1,250.00 per semester. A Graduate School Honors Fellow must enroll for a full load (9 credit hours/semester). In order to satisfy University regulations pertaining to course load requirements for graduate student employees, one may not be employed more than one-half time on service assignments.

Honors fellowships will be awarded for two years to Masters candidates, for two years to persons with a Masters degree who are pursuing the doctorate and for four years to persons with a bachelors degree pursuing the doctorate. Continuation of an Honors Fellowship is subject to satisfactory performance as determined by the departmental Graduate Admissions, Support and Retention Committee as well as the Graduate Dean. At least one-half of the fellowships awarded in a given program must be held by U.S. citizens. The amount of these fellowships are \$2,000.00/academic year for either the Masters or Doctoral degree students.

These programs will be extended through a student's full-time enrollment in a degree program. To be considered for an Honors Fellowship, candidates must be admitted to the Graduate School in either full standing or as conditional status, must meet the criteria listed below, and must be approved by the departmental Graduate Admissions, Support and Retention Committee. The final decision on awardees for an award will be made by the Graduate Dean.

Minimum overall undergraduate GPA (4.0 scale) on <u>all work attempted</u>	Minimum GRE score (V & Q)
3.1	1150
3.3	1100
3.6	1050

A minimum of 450 on both the verbal and quantitative sections is required. However, it must be Noted that departmental requirements include a 500 minimum score for the quantitative score.

The Pharmacology Department has a limited number of competitive research and teaching assistantships to support graduate students. Teaching assistantships are awarded on a nine-month and three month (summer) basis. Those Pharmacology Department students supported by teaching assistantships are expected to spend 15-20 hours per week in conducting undergraduate laboratories or in other duties related to the teaching functions of the department such as assisting in grading examinations. Those students receiving these awards will have their specific duties assigned by the professor in whose course they are assisting. If less than 15 hours of effort is required in a given week, it is expected that the faculty member would assign them to assist other faculty members during that week. Requests for their assistance should be directed to the supervising faculty member rather than to the Department Chair or the student.

Similarly, those students receiving research assistantships from extramural or university appropriated funds are to provide 15 to 20 hours of assistance to the research efforts of the faculty member to whom they are assigned. This usually is (but does not have to be) their thesis or dissertation advisor. These efforts may be in addition to the time required for thesis or dissertation research. This

requirement is in effect at all times during a student's progress through the program. Failure to comply with this requirement may result in loss of the assistantship. Being the recipient of an assistantship should not be looked upon as a right, but as an opportunity to have financial support. Every attempt will be made to support all students in the program. However, depending on circumstances this may not be possible for all incoming students. In most instances the value of the assistantship increases with increasing time in the program. Students do not have to formally apply for assistantship awards.

Additional forms of financial assistant include:

**Minority Fellowships**— The Graduate School administers a fellowship program available to all minority students accepted for admission in full or conditional standing to a degree program. The only condition of this award is enrollment on the Oxford campus for at least nine hours of graduate work each semester.

**Loans**—Information pertaining to loans and part-time employment, as well as other forms of financial assistance not noted above, should be requested by writing directly: Office of Financial Aid, The University of Mississippi, University, MS 38677.

## **M. MISCELLANEOUS DEPARTMENTAL POLICIES REGARDING GRADUATE STUDENTS**

### **1. Vacations and Work Schedule**

Intervals of rest and relaxation are an important in any endeavor, however, as with many good things, overindulgence can be harmful. The faculty works to obtain financial support for all students for a period of 12 months. A large portion of the funds for stipends comes from granting agencies to support specific projects. Lack of interest and productivity may result in the loss of continued support by the agency and/or the Department.

It should be recognized that graduate work is not based on a nine-to-five, five-day-a-week schedule. A Doctoral degree or Masters degree is a research degree and the student's stipend is based on research and training. In undergraduate school a student becomes accustomed to having free time during which classes are not being held. Graduate study differs in that it is a full-time occupation requiring the best effort of the student at all times except during specific holidays such as Thanksgiving, Christmas, other legal holidays. Students may be granted paid leave from work outside of University holidays with the consent of their advisor or department chair when work schedules are such as to require prolonged and intense work time, well beyond that normally expected of graduate students. Students must obtain written permission for such leave and this document along with a completed leave form must be submitted to the Department at least one day before the leave is taken. Such leave generally should not exceed 4 days. This policy applies to all students whether or not they are receiving a stipend and regardless of the source of support (fellowships, research assistantships, teaching assistantships, etc.).

Students are to provide written notification to the Department Chair if they expect to be away from campus for unpaid leave. Students must notify the department at least 2 months in advance for international travel, 1 month in advance for domestic travel, and provide the department office with a completed leave form indicating the dates they will be away, and how they can be located in case of emergency.

Students who hold an appointment of any kind are discouraged from accepting outside employment. Such activity may adversely affect the student's overall academic and research performance and progress.

### **2. Secretarial Services**

Departmental secretaries are not to type or do other work for graduate students during regular office hours, with the following exceptions:

- a. seminar abstracts, research abstracts or manuscripts
- b. letters of inquiry involving research or teaching responsibilities
- c. laboratory quizzes, examinations or handouts

Photocopying by a graduate student for his or her own classroom needs is not permissible.

### **3. Telephone Use**

Telephones are available for local calls only; Personal long distance calls being made on departmental phones will be permitted only in emergency circumstances with the Department Chair being notified of such circumstances. Reimbursement is to be made promptly to the Department Chair when charges are billed.

### **4. Laboratory Rules**

#### **a. Refrigerators**

All solutions and/or samples will be properly stored and labeled to contain the following information: (1) student's name, (2) compound or sample identity, and (3) date of preparation. All containers not having such information will be removed and contents disposed of.

#### **b. Animal Care and Maintenance**

Each student will be held responsible to see that animals involved in his or her research or teaching duties are fed and watered and that cleanliness is maintained and caging identification is in accordance with IACUC guidelines. This does not mean that he/she must provide this care, but they may do so if it is their wish. All research and teaching animals are to be maintained and utilized in a manner meeting the guidelines established by the Department of Health and Human Services.

#### **c. Laboratory Safety**

Maximum use should be made of the fume hoods for hazardous operations or for handling substances with noxious or odoriferous vapors. Use of laboratory jackets, safety glasses and gloves is required when handling hazardous substances. Location of fire extinguishers, first aid kits, eye wash facilities, and overhead showers should be known.

THE REGULATIONS AND POLICIES ESTABLISHED BY THE UNIVERSITY OFFICE OF ENVIRONMENTAL SAFETY CONCERNING THE USE AND DISPOSAL OF BIOHAZARDOUS WASTE, CHEMICAL HAZARDS RADIOACTIVE MATERIAL AS WELL AS ANIMAL CARCASSES AND WASTES ARE TO BE STRICTLY FOLLOWED. MANUALS DESCRIBING ALL SUCH POLICIES REFERRING TO THESE ACTIVITIES ARE LOCATED IN EACH LABORATORY IN OPEN VIEW AND ARE TO BE LEFT IN THOSE LOCATIONS.

- d. After using equipment considered "community property", that equipment must be thoroughly cleaned and left ready to use by others.

### **5. Final Checkout**

Before the Department Chair certifies that a student has completed the appropriate degree requirements the following must have been completed:

- a. all research notebooks are to be turned in to the major professor; all glassware and equipment is to be left clean and in proper condition; materials removed from refrigeration and properly disposed of
- b. library materials are to be returned to the main and/or pharmacy library
- c. major professor is to be provided with all completed data files; outdated files are to be removed from mainframe or departmental personal computers
- c. research materials disposed of in accordance with the regulations and policies established by the University Office of Environmental Safety
- d. keys are to be returned to the department chair

The student is to submit a Final Check-Out form obtained from the departmental secretary to be compliant with this policy. A copy of this form is included below:

Date  
Student's Name  
Major Professor

**Part I. (Completed by Terminating Graduate Student or Faculty Member)**

**A. Laboratory**

1. All tissue samples have been removed from freezers or refrigerators, unless storage is required for later analysis. Samples remaining are appropriately labeled as to the identity of the sample, the substance to which it was exposed, the name of the faculty member or director of the graduate's research, IACUC protocol number, date of sample and subject number.
2. All unused drug chemical stock solutions have been disposed of via appropriate University procedures.
3. All experimental subjects have been appropriately disposed of.
4. All equipment has been checked for proper operating conditions and damaged or worn out equipment has been reported to the Department Chair or major professor for repairs.
5. Unused supplies have been returned to normal site of departmental storage i.e. department office or appropriate laboratories.
6. All equipment has been cleaned and/or serviced and faculty member responsible for the item has been informed of the supply inventory for use in that apparatus.
7. All glassware has been properly cleaned and stored.
8. Laboratory writing desk has been cleaned and all materials removed. In the case of a terminating faculty member his/her office and laboratory have been cleaned and all supplies removed from the office and returned to the department office.
9. After consultation with dissertation advisor, all appropriate data files from campus mainframe computer, School of Pharmacy and departmental computers have been removed.
10. All laboratory coats have been returned to stockroom.
11. All keys have been returned to department chair.

**B. All books have been returned to Pharmacy and University Library.**

Signature \_\_\_\_\_  
Pharmacy Librarian

\_\_\_\_\_  
Signature of Terminating Student  
or Faculty Member

**Part II. (Major Professor)**

1. I have acceptable copies of all laboratory notebooks.
2. I have all personal books and materials loaned to this student.
3. I have checked to determine that this student does not have equipment manuals belonging to the University.
4. I have confirmed that the student has met the items covered in Part I.
5. Forwarding address of the student has been provided.
6. The final copy of this student's thesis/dissertation meets with my approval and has been properly signed and transmitted to the Graduate School.
7. A completed draft of an appropriate manuscript related to the thesis/dissertation research has been submitted to me.
8. A 5X7 photograph of the graduate suitable for framing has been provided.

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Signature of Major Professor

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Date