

GRADUATE PROGRAM HANDBOOK

2009

DEPARTMENT OF PHARMACOLOGY

AND

EXPERIMENTAL THERAPEUTICS

LOUISIANA STATE UNIVERSITY HEALTH SCIENCES CENTER

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I.	Introduction	2
II.	Facilities	2
III.	Faculty	3
IV.	General Graduate School Policies	5
	A. Admissions	5
	B. Registration	5
	C. Grading	6
V.	Courses	7
VI.	Graduate Study	9
	A. Required Courses	9
	B. Recommended Schedule	9
	C. Laboratory Rotations	10
	D. Selection of Mentor	10
	E. Graduate Training Committee	11
	F. Progress Evaluation	11
	G. Criteria for Admission to Candidacy	12
	H. Qualifying Examination (Preliminary Examination)	12
	I. Dissertation Committee Selection	13
	J. Dissertation Proposal	13
	K. Defense of Dissertation	14
VII.	General Information	15
	A. Attendance	15
	B. Banking	15
	C. Dissertation Expenses	15
	D. Extramural Support	15
	E. Foreign Language Requirement	15
	F. Good Laboratory Practice	15
	G. Graduate Student Council	15
	H. Holidays	16
	I. Housing	16
	J. Student Journal Club	16
	K. Libraries	16
	L. Masters Degree from Other Institutions	16
	M. Outside Employment	16
	N. Parking	17
	O. Participation in Departmental Duties and Functions	17
	P. Procedure for Review of Academic Dismissal	17
	Q. Safety	17
	R. Seminars	18
	S. Stipends	18
	T. Student Health	18
	U. Teaching	19
	V. Travel	19
	W. Visas	19

VIII. Forms

A.	Check List	20
B.	Request for Preliminary Examination	20
C.	Report of Preliminary Examination	20
D.	Request for Dissertation/Thesis Defense and Final Examination	20
E.	Dissertation/Thesis Defense Final Examination Report	20

GRADUATE STUDENT HANDBOOK

I. Introduction

The graduate program in the Department of Pharmacology at LSU Health Sciences Center in New Orleans is designed to prepare students for a career in teaching and research in academic institutions, the pharmaceutical industry, and government agencies. Pharmacology is founded in the biological and physical sciences; thus, students should have a working knowledge of biology, chemistry and mathematics. The training program consists of both didactic and practical course work, seminars, and research experience. During the first two years students will take all required basic biomedical science and pharmacology graduate courses.

Following this period of broad training in pharmacology and related areas, advanced courses and directed research are undertaken. The particular area of research for the dissertation studies is chosen by the student, provided that departmental faculty expertise is available. As students advance and their interests become more specialized, the program becomes tailored to individual research areas and needs.

The Department has the following obligations to the student:

1. To provide an environment that fosters scholarship and meritorious research,
2. To regularly evaluate student performance and progress toward the Ph.D. degree,
3. To serve, through the faculty, as examples for the ethical conduct of research and critical, objective evaluation of data,
4. To support and stimulate creative, original and independent research.

The student has the following obligations to the Department:

1. To achieve and demonstrate a clear understanding of material presented in formal courses, seminars and other teaching formats,
2. To demonstrate an aptitude and enthusiasm for all aspects of research: knowledge of the literature, formulation and experimental testing of hypotheses, analyses of data, and clear presentation of data in both oral and written form,
3. To participate in departmental seminars and other official Departmental functions.

II. Facilities

The Department currently occupies office and laboratory space at both the medical school campus (Medical Education Building, downtown) and the dental school campus (William Pitcher Plaza, near City Park). These campuses are about 4 miles apart and are connected by free shuttle-bus service. Parking facilities are available at both campuses. The Department has modern, state-of-the-art, well equipped laboratories.

III. Faculty

Wayne L. Backes, Ph.D., Professor, Associate Dean for Research

West Virginia University Medical Center, 1979

Metabolism of drugs and environmental pollutants by cytochrome P-450

Louis A. Barker, Ph.D., Professor Emeritus

Tulane University, 1968

Hamid Boulares, Ph.D., Associate Professor

University of Connecticut, 1997

The DNA repair enzyme PARP-1 and associated proteins during inflammation and tumorigenesis.

Andrew D. Catling, Ph.D., Associate Professor

University of Glasgow, Glasgow, UK, 1992

Mechanisms of cell adhesion and growth factor signal integrations to modify the function of MAP kinase.

Stephania Cormier, Ph.D., Assistant Professor

Louisiana State University Medical Center, 1997

Identification of Developmentally - Expressed Genes in Cardiac Myocytes and Characterization of the Adrenomedullin Gene.

Jeffrey D. Erickson, Ph.D., Associate Professor.

George Washington University, 1993

Molecular and cellular studies on vesicular transporters that are potential sites for the regulation of presynaptic function.

W. Bryant Faust, M.A.S.T., Instructor

University of New Orleans, 1994

Drug effects on behavior.

Catalin Filipeanu, M.D., Ph.D., Assistant Professor, Research

Rijksuniversiteit Groningen, The Netherlands, 2001

Intracellular angiotensin II: from myth to reality

Jesse Guidry, B.S., Instructor

Auburn University, 1991

Protein Biochemistry

Eric Lazartigues, Ph.D., Assistant Professor

University Paul Sabatier - Doctoral School of Toulouse, France, 1999

Role of ACE2 in the regulation of the renin-angiotensin system activity in cardiovascular function

Daniel R. Kapusta, Ph.D., Professor

Louisiana State University Medical Center, 1986

Role of opioid peptides in cardiovascular and renal function

Joseph M. Moerschbaecher, Ph.D., Professor ■ Vice Chancellor for Academic Affairs
and Dean, School of Graduate Studies
The American University, 1976
Effects of drugs on learning and memory

Dennis Paul, Ph.D., Associate Professor
University of British Columbia, 1988
Distribution and effects of opioid receptor subtypes

Ashok Pullikuth, Ph.D., Instructor
University of California
Molecular Characterization of an *N*-ethylmaleimidesensitive fusion protein (NSF) implicated in
Constitutive membrane trafficking and neurotransmitter release from *Manduca sexta*.

James R. Reed, Ph.D., Research Assistant Professor
University of Nevada, Reno, 1995
Drug metabolism by cytochromes P450 reductase

Emel Songu-Mize, Ph.D., Professor and Coordinator of Graduate Studies
University of Pennsylvania, 1979
Factors related to development of high blood pressure

Kurt J. Varner, Ph.D., Professor
Michigan State University, 1987
CNS control of the autonomic and cardiovascular systems

Richard Wainford, Ph.D. Instructor
University of Aberdeen, Scotland, 2004
Cisplatin nephrotoxicity *in vivo* and *in vitro* and the use of the immediate early genes *c-fos* and *c-jun*
as early markers of toxicity.

Guangyu Wu, Ph.D., Associate Professor
Peking Union Medical College, Beijing, PRC, 1992
Intracellular signaling pathways involved in the pathogenesis of cardiac hypertrophy and failure by
using genetically manipulated transgenic mouse models and primary culture of cardiac myocytes.

Peter J. Winsauer, Ph.D., Professor
The American University, 1989
Behavioral pharmacology of opioids, benzodiazepines and serotonin

IV. General Graduate School Policies

A. Admissions

Applications for admission to the graduate program in Pharmacology are reviewed annually. To be considered for both acceptance to the program and for financial assistance, completed applications must be received by February 15 on the year in which the student intends to enroll. Decisions regarding admission and financial assistance are made and initial offers of acceptance are mailed by March 15. Students who have been accepted have until April 15 to respond. Under extraordinary circumstances applicants are considered for admission at other times of the academic year. Limited financial assistance is available on a competitive basis to accepted students.

The requirements for admission to the graduate program in Pharmacology include: 1) a baccalaureate degree from an approved college or university; 2) a grade point average of 3 or higher for undergraduate work, or in the case of advanced students, a grade point average of 3.5 or higher for graduate work (in both cases on a 4.0 scale); 3) a minimum of 1100 combined verbal and quantitative scores on the GRE; 4) two letters of recommendation; 5) a statement of career goals; 6) for international applicants whose native language is not English, a minimum of 250 on the TOEFL; and 7) fulfillment of all State and Federal health requirements, including immunizations, as defined by the LSU Health Sciences Center School of Graduate Studies. In addition to these requirements, it is recommended that the applicant have completed courses in biology, organic chemistry, physics, cell biology and calculus. The faculty may choose to waive certain minimal requirements provided the application for admission demonstrates exceptional strength in all other aspects.

There are three types of admission to the School of Graduate Studies. A student meeting all of the requirements is normally granted **unconditional admission**. Applicants who fail to meet some of these qualifications, but who are judged by the Department and the Dean of School of Graduate Studies to show promise for successful graduate work may be considered for **probationary admission**. Students accepted on a probationary basis must have a 3.0 grade point average at the end of the second semester of graduate study for continuation of graduate work; if a student fails to meet this grade point average requirement they will be dropped from the rolls of the School of Graduate Studies. Applicants who appear to be admissible and who are not able to supply the required credentials prior to the stated deadline may be accepted with **provisional admission**; in such cases, completed credentials must be received not later than 60 days after the first day of classes (45 days in the summer term). Upon receipt of all required application materials the admission status will be changed to that of **unconditional or probationary admission**.

B. Registration

Registration in the School of Graduate Studies is coordinated by the Dean's Office; Nancy Rhodes, in the Dean's Office (8th floor of Resource Center), can be contacted regarding all matters of registration (568-2211; Fax 568-5588). All registration fees must be paid at the time of registration. Registration for the fall semester is usually scheduled for the second or third week in August. Because many courses start before this time, students should plan to be in New Orleans during the first week of August. An orientation for new graduate students in the Department of Pharmacology and Experimental Therapeutics is held during the first or second week of August. Full-time status requires registration for at least nine credit hours in the fall and spring semesters and at least six credit hours in the summer semester. Once students have completed all course and credit hour requirements and are expected to graduate within 3 semesters they can register "for examination only." In addition to courses offered at the LSU Medical Center, full-time students can cross-register without charge for courses offered at the University of New Orleans, provided

there is space in the course and the student has taken the appropriate prerequisites courses. See Nancy Rhodes for further details on cross-registration at UNO.

All students, including those supported by stipends or assistantships, must pay activity fees.

International students must also pay a repatriation fee of \$16.00. A small part of the activity fees is set aside for student activities; the rest goes to LSU sports, the yearbook and for paying the bond used to build student dormitories.

C. Grading

The School of Graduate Studies uses a 4.0 grading scale: A = 4, B = 3, C = 2, D = 1 and F = 0. To receive a graduate degree, a student must have at least a 3.0 average for all work taken as a graduate student and a grade of no less than B in all required courses offered by the Department of Pharmacology; these are Pharm 205 (Principles of Pharmacology) and Pharm 195 (General Pharmacology). Credits received in seminars, thesis or dissertation research, are given a grade of S (satisfactory) or U (unsatisfactory) and are not used in computing the grade point average.

If the cumulative grade point average of a student falls below a 3.0 for three consecutive semesters, that individual will be dropped from the rolls of the School of Graduate Studies. Students in serious scholastic difficulties can be dropped from the rolls at the end of any semester if the faculty and the Dean feel that the student is not qualified to continue.

Work which is of passing grade, but because of circumstances beyond the student's control, is not complete, may be graded I (incomplete). An I grade is given only upon receipt by the instructor of an adequate justification. If adequate justification is not received, the grade of I will be converted to an F unless it is removed prior to the deadline for adding courses for the next semester. In extraordinary cases, the Dean can authorize that the I grade become permanent or authorize an extension of time for removal of the grade.

Students can register for a maximum of two elective courses outside of their major on an S-U basis. The passing grade of S is counted in the credit hours towards the degree, but not in computing the grade point average. Intent to register for a course on this basis must be declared at registration by entering S-U after the course number on the registration card.

V. Courses:

PHARM 195 (5 credits) **General Pharmacology** - Lectures, conferences, and discussion leading to a broad general understanding of the effects of drugs.

PHARM 202 (2 credits) **History of Pharmacology** - Two hours of faculty-student presentations and discussions on the history of pharmacology and experimental therapeutics, with an emphasis on classical experiments.

PHARM 203 (3 credits) **Methods in Pharmacology** - Instruction in classical methods used in investigating the action of drugs.

PHARM 204 (2 credits) **Current Concepts in Pharmacology** - Two hours of faculty-student presentations and discussions on recent advances in the field of pharmacology. All areas of pharmacology research will be included, with an emphasis on the implications of recent research findings.

PHARM 205 (5 credits) **Principles of Pharmacology** - Basic concepts in pharmacology including in depth studies of pharmacokinetics and pharmacodynamic principles, drug metabolism, and drug-receptor interactions.

PHARM 207 (2 credits) **Drug-Receptor Interactions** - Lecture, discussion, and laboratory exercises related to drug-receptor theory.

PHARM 211 (2 credits) **Renal Pharmacology** - Lecture, discussion, and laboratory experience covering diuretics and factors influencing renal blood flow and electrolyte excretion.

PHARM 221-224 (1-4 credits) **Advanced Topics in Pharmacology** - A course designed for advanced studies of special groups of drugs.

PHARM 225 (2 credits) **Sensory Pharmacology** - Lecture and discussion of drugs acting on the neural pathways involved in perception of sensory information. Drugs used in therapeutics, diagnoses and research will be included. A paper written on a subject involving a sensory system and a drug or drug class is required.

PHARM 231 (3 credits) **Drug Abuse** - This course is designed to provide the student with a basic understanding of behavioral and pharmacological principles underlying various problems of drug abuse. The course will expose the student to both basic science and clinical issues as they relate to drug abuse and dependence.

PHARM 232 (2 credits) **Autonomic Pharmacology** - Lecture, discussion and laboratory exercises designed to provide the student with the basics of peripheral autonomic functions and their regulation by CNS mechanisms. The course will also cover the role of receptor sub-types and release of co-transmitters in control of autonomic function.

PHARM 233 (2-3 credits) **Neuropharmacology** - A study of the chemical transmitters in the central nervous system with special emphasis on drug-modifications of transmitter action and neuronal function.

PHARM 234 (1-3 credits) **Psychopharmacology** - Lecture and laboratory designed to provide an understanding of the effects of drugs on behavior. Special emphasis will be given to pharmacological methods useful in the elucidation of normal and pathological behavior.

PHARM 236 (2 credits) **Gastrointestinal Pharmacology** - Lecture and reading assignments designed to provide students with a basic understanding of drugs affecting selected aspects of gastrointestinal function through central nervous system and peripheral mechanisms.

PHARM 237 (1-3 credits) **Biochemical Pharmacology** - Lecture and discussion designed to provide the student with the basics of drug metabolism and the use of biochemical techniques in pharmacology.

PHARM 238 (2 credits) **Cardiovascular Pharmacology** - Lecture and discussion to study drugs used to treat cardiovascular disorders with primary emphasis on basic mechanisms of action.

PHARM 240 (1-3 credits) **Behavioral Pharmacology** - Basic principles of the experimental analysis of behavior, including operant and classical conditioning are discussed. The utility of using scheduled-controlled behavior to investigate drug effects is the primary focus of the course. Behavioral mechanisms of drug action are discussed within the context of a variety of environmental situations.

PHARM 251-2; 253-4 **Research in Pharmacology** - An in-depth experience in research development, design, methodology and implementation. Students will undertake specific projects of limited scope and develop their findings under the guidance and direction of faculty preceptors. Number of credits to be declared at registration.

PHARM 280 (3 credits) **Advanced Topics in Cell Signaling and Integrated Pharmacological Sciences** - The objective of this course is to provide a forum for discussing timely topics in the field of cell signaling in the context of integrated experimental approaches that include model organisms, human disease and molecular therapeutics

PHARM 206 (3 credits) **Principles of Pharmacology II: Integrative and Systems Pharmacology** - The objective of this course is to utilize an experimental approach to understanding the development of therapeutic agents for the treatment of diseases. Lectures will provide the pathophysiological basis of diseases and the rationale for developing specific therapeutic agents.

PHARM 298 & 299 (1 credit) **Seminar**

PHARM 300 (1-6 credits) **Thesis Research**

PHARM 400 (1-9 credits) **Dissertation Research**

VI. Graduate Study

A. Required Courses

The Ph.D. program is a flexible program which encourages students and mentors to select a particular course of studies that best fits individual interests and needs. However, the Department requires that all students take the following courses:

PHARM 195	General Pharmacology
PHARM 199	Seminar
PHARM 205	Principles of Pharmacology
PHARM 222	Introduction to Faculty Research
PHARM 251-252	Research in Pharmacology
PHARM 300-400	Thesis and Dissertation Research
INTER 111	Biochemistry
INTER 121	Cell Biology
INTER 122	Molecular Genetic Mechanisms
INTER 123	Control of Gene Expression
INTER 124	Cell Signaling and Cell Cycle Control
INTER 131	Biological Systems A
INTER 132	Biological Systems B
INTER 220	Ethics in Biomedical Sciences
INTER 260	Responsible Conduct of Research
BIOS 221	Introduction to Biostatistics

B. Recommended Schedule

FIRST YEAR

Pharmacology, Seminar	298, 299	2 credits
Biochemistry, Fundamental	111	5 credits
Pharmacology, Lab Rotations,	251, 252	2 credits
Pharmacology, Intro to Faculty Research	222	1 credit
Cell Biology	121	3 credits
Molecular Genetic Mechanisms	122	2 credits
Control of Gene Expression	123	2 credits
Cell Signaling and Cell Cycle Control	124	3 credit
Biological Systems A	131	2 credits
Biological Systems B	132	5 credits
Ethics in Biomedical Sciences	220	1 credit
Pharmacology 253 (Optional Lab Rotation)		1 credit
or		
Pharmacology 300 (Thesis Research)		1-6 credits

SECOND YEAR

Pharmacology, Principles	205	5 credits
Pharmacology, General	195	5 credits
Pharmacology, Thesis Research	300	1-9 credits
Pharmacology, Seminar	298, 299	2 credits
Biometry	221	3 credits
Pharmacology 195 (General)		5 credits
Pharmacology 299 (Seminar)		1 credit

Responsible Conduct of Research 260 1 credit

Elective

PRELIMINARY EXAMINATION PART I (Written Examination)

PRELIMINARY EXAMINATION, PART II (Oral Presentation)

* Pharmacology 400 (Dissertation Research) replaces Pharmacology 300 after parts I and II of the preliminary examination are successfully completed.

THIRD AND SUBSEQUENT YEARS

Normally all required courses are completed during the first two years. Students are required to register for Dissertation Research (Pharmacology 400) and Seminar (Pharmacology 298 or 299); however, students have the option of taking other elective courses during the third and fourth years of study. A minimum of 60 credit hours are needed for graduation (Ph.D.) with at least 30 of those credit hours taken under conditions where a letter grade was issued. Typically letter grades are issued for Pharmacology 195, 205, Physiology 205 -207, Biometry 221, Biochemistry 201 and most electives.

To be considered full-time, students must register at least for 9 credits during Fall and Spring semesters, and 6 credits for summer semesters.

C. Laboratory Rotations

The training program in pharmacology is intended to provide an optimal research experience that is sufficiently flexible to meet the needs of a variety of students. In order to increase awareness of the many research opportunities available in pharmacology, students are required to participate in laboratory rotations in their first two semesters of study. Thus, students register for Pharmacology 251 (Research) during their first semester laboratory rotation and for Pharmacology 252 (Research) during their second semester laboratory rotation. Students rotate through a minimum of two laboratories with each rotation being one semester in length. A third rotation is optional, in which case, students register for Pharmacology 253 during their third semester. In addition, Pharm 222 Introduction to Faculty Research, is offered in the fall semester to complement the lab rotations.

The emphasis during the research rotations should be on: 1) active participation in laboratory work; 2) spending sufficient time in each laboratory to obtain a working knowledge of the field; and 3) production of sufficient experimental results that a valid evaluation can be made regarding the student's potential for a career in research. Note, this does not mean that positive results need to be obtained; a high quality effort is what is required.

Students who enter the graduate program either with an MS degree from another institution or with other professional experience and who are certain of their area of research interest may request a waiver of the rotation requirements. The request should be directed to the Graduate Coordinator who will present the request to the Graduate Training Committee.

D. Selection of a Mentor

Prior to the time a graduate student enters into a thesis research arrangement with a faculty member, the Graduate Coordinator along with the Faculty member in whose laboratory the student is conducting research (i.e., laboratory rotation) will act as advisors. These advisors will be available to assist the student in selecting courses and in preparing seminars.

The knowledge obtained during the laboratory rotations will enable the graduate student to choose a mentor and an area of research interest. The choice of mentor is usually made by the

end of the second semester, but can be delayed until the third semester if the student needs more information or experience in order to choose a laboratory for their dissertation research. It is important to note that graduate students will not be assigned a mentor. The choice of mentor will be contingent on the mutual consent of the student and faculty member. A subsequent change of mentor is possible only after approval of the Department Head.

The general duties of the mentor are:

- To direct and evaluate research activities;
- To advise and guide the academic curriculum;
- To assist in preparing seminars; and
- To serve as Chair of the preliminary examination and Ph.D. dissertation examination committees.

E. Graduate Training Committee (GTC)

The Graduate Training Committee is composed of faculty who meet monthly with the aim of maintaining and improving the quality of the Pharmacology Graduate Training Program.

The committee meets to discuss the pharmacology graduate training program with the following purposes:

- to recruit qualified graduate students,
- to maintain the quality of the graduate curriculum as well as to develop and implement new ideas,
- to advise and consult with the Department Head regarding the graduate training program,
- to report regularly to the faculty on the progress of the committee,
- to construct and design the preliminary examination with input from faculty.

F. Progress Evaluation

The evaluation of students is a continual process. During the first two years the evaluation is predominantly via course grades, the laboratory rotations and participation (attendance and presentation) in Seminars. The faculty participating in the rotations assess a student's aptitude toward research and laboratory work. At the end of the first year, usually during the first week of June, the progress of new students is evaluated by the Faculty. A letter from the Graduate Coordinator stating recommendations is sent to each student and a copy is retained in the student's permanent file.

After satisfactory completion of all required courses, students take a qualifying examination, termed preliminary examination that is composed of a written part and an oral presentation part. Based on the student's performance in the qualifying examination recommendation is made concerning the candidacy for the Doctorate degree.

In each subsequent year, students are evaluated by their mentor, dissertation committee, the course directors for the courses in which the student gives lectures, and on the basis of their performance in departmental seminars.

Mentors submit a report at the end of each spring semester in which they outline and evaluate the academic and research progress of each graduate student under their direction. The projected activities for the next year are also outlined. This report is sent to the Graduate

Coordinator and Head of the Department and is a major basis for assignment of assistantships and retention or termination of the student in the program.

G. Criteria for Admission to Candidacy

A student becomes a Candidate for the Doctorate Degree after satisfactory completion of all required courses, a passing grade on the preliminary examination, demonstration of research ability, participation in and presentation of departmental seminars, and the accumulation of at least 30 credit hours in which a grade was received.

H. Qualifying Examination (Preliminary Examination)

Satisfactory performance in the qualifying or preliminary examination is required for admission to candidacy for the Ph.D. degree. The objective of the preliminary examination is to examine the student's breadth of knowledge in the area of pharmacology, conceptual ability and aptitude for integrating the knowledge in various fields of study, and ability to think critically. This examination is administered after the student has satisfactorily completed all required courses and selected an Examination Committee, which will consist of a minimum of five members (four from the Department of Pharmacology and an external member). The examination consists of two parts, a written examination and an oral presentation. Since General Pharmacology (PHARM 195, Spring Semester, 2nd year) is the last required departmental course, the written examination is generally given 2-4 weeks after completion of this course (i.e. in late May or early June of the 2nd year). After successful completion of the written examination, students should schedule their oral presentation with the Examination Committee and this presentation will constitute the student's seminar for the second academic year.

NOTE: The **Request for Preliminary Examination** form can be obtained from the School of Graduate Studies, the Departmental Graduate Coordinator or the Graduate School website (<http://graduatestudies.lsuhscc.edu/Forms/prelim1.pdf>). This form must be completed and returned to the School of Graduate Studies at least two weeks prior to the examination.

1. Preliminary Examination, Part 1: Written Examination

A written examination consists of approximately twelve questions to be answered over two days. This is a broad-based examination covering all aspects of the student's training in pharmacology. Examination will include questions from the Pharmacology faculty and one question from the external member of the Examination Committee. The student and the mentor select the outside committee member.

The examination will be administered by the Graduate Coordinator and returned to the faculty for grading on a pass/fail (S-U) basis. Students must pass 80% of the questions to receive an overall passing grade. Students are expected to discuss each answer with the respective faculty member responsible for the question prior to part 2 of the preliminary examination.

2. Preliminary Examination, Part 2: Evaluation of Critical Thinking (Oral Presentation)

The purpose of this part is to formulate a feasible research plan and then formally defend it. The oral presentation is in the form of a seminar (no more than 30 minutes presentation) and will be presented to the entire faculty, followed by a question and answer session with the Examination Committee and faculty. The topic of the oral presentation should be decided upon through discussions with the student's mentor and the Director of the Graduate Training Program. Together, they should agree upon a testable hypothesis. The student will also be responsible for developing a "specific aims"

page (no more than two or three aims) along with a brief general background (no more than 5 pages) to be reviewed by the Examination Committee at least 2 weeks prior to the presentation. Under each specific aim, the student should propose specific experiments that are directed to testing the hypothesis. The student should also present an example of potential results and be prepared to discuss the interpretation of these data and any limitations of experimental approach. Although the oral exam will focus on the hypothesis and experimental approach with an emphasis on critical thinking and judgment, the exam is also open to all questions on material covered in courses during the first two years of the program. The Examination Committee will determine whether the student's performance on this part of the examination was satisfactory or unsatisfactory. The student's mentor will chair this part of the examination and the student will be responsible for bringing a copy of the **Report of Preliminary Examination** (<http://graduatestudies.lsuhsu.edu/Forms/prelim1.pdf>).

In the event that a student does not pass both parts of the preliminary examination, the student's mentor and the GTC will consider whether: 1) the student can remain in the doctoral program and be re-examined at a future date; 2) the student is eligible for a Master of Science degree; or 3) the student should be dismissed from the graduate program. If a failing grade is obtained upon re-examination, eligible students will be considered for a Master of Science degree or will be dismissed from the program.

Students who have passed both parts of the preliminary examination are considered candidates for the Ph.D. and return to the laboratory to continue research that will lead to their dissertation under the guidance of their mentor and the Dissertation Committee.

I. Dissertation Committee Selection

The Examination Committee selected by the student for his/her preliminary examination will serve as their Dissertation Committee, with the option of selecting an additional member. The Ph.D. Dissertation Committee will perform the following functions:

- advise the student regarding departmental requirements;
- read and evaluate the dissertation research proposal during regular committee meetings - the committee should meet at least once annually;
- attend the defense of the dissertation research; and
- be available for consultation and advice outside the regularly scheduled committee meetings.

Members of the Dissertation Committee will be available for consultation and advice at all times during a student's course of study and research. Students are encouraged to meet with their Dissertation Committee frequently.

J. Dissertation Proposal

A Ph.D. candidate must prepare and present a proposal (written and oral) of his/her dissertation research. This proposal should be in the format of a NIH predoctoral grant application (website: <http://grants1.nih.gov/grants/funding/416/phs416-1.pdf>). This proposal is expected to contain a description of completed studies and proposed dissertation work. The Department expects that the presentation of this proposal will be within one year after the successful completion of the preliminary examination. A copy of the written proposal must be submitted to all dissertation committee members at least 2 weeks prior to the oral presentation of the proposal. The written

proposal can be accepted, accepted with minor revisions, or rejected. If the proposal is unacceptable and major revision is warranted, the student must submit a revised proposal to the dissertation committee for approval.

The oral presentation that is in the form of a public seminar is followed by a public question and answer session and is followed by questions from the Dissertation Committee members. Oral presentation of the proposal will constitute the student's seminar for the third academic year. Subsequent to the oral presentation, the student should meet with the mentor and dissertation committee members to discuss and incorporate suggestions and changes.

K. Defense of Dissertation

The dissertation defense is the final examination prior to awarding the Ph.D. It is expected that each student will carefully go over the dissertation with their mentor **prior** to distribution of the dissertation to other committee members. Dissertations must be submitted to all dissertation committee members 2 weeks prior to the defense. Further, two copies are to be placed in the Pharmacology offices for review by the faculty: one copy will be sent to the Dental School Office and the other will remain at the Medical Education Building Office.

Students are expected to speak with all dissertation committee members about recommended changes of the dissertation **prior** to the defense to assure that the dissertation will be in **final form** at the time of the defense. The University requires that the dissertation be defended and delivered to the School of Graduate Studies at least one month prior to graduation.

The final dissertation defense should consist of a seminar, not to exceed one hour in length and covering the research performed during the student's tenure, followed by a question and answer period. The defense seminar is open to the public and is followed by questions from the Dissertation Committee. Upon completion of all questioning, the dissertation committee will vote with no more than one negative vote permitted. All graduate students are expected to attend the seminar part of the dissertation defense.

Students are required to provide one bound copy of their dissertation for the Department of Pharmacology Library.

NOTE: Students must petition the Dean for permission to take the final examination; a **Request for Dissertation/Thesis Defense and Final Examination** form must be obtained from the School of Graduate Studies, the Departmental Graduate Coordinator or the graduate school website (<http://graduatestudies.lsuhscc.edu/Forms/final1.pdf>). This form must be completed and returned to the School of Graduate Studies at least two weeks prior to the Final Examination. The student should also have available the **Dissertation/Thesis Defense and Final Examination Report** (<http://graduatestudies.lsuhscc.edu/Forms/final2.pdf>) form for signing by the Dissertation Committee members at the defense.

VII. General Information

A. Attendance

It is expected that students will attend all classes and departmental Seminars regularly.

B. Banking

There are numerous banks available within the New Orleans area. As a student, you also have access to the University-associated credit union, Campus Federal Credit Union, which has offices in the Resource Center and at the Dental School Administration Building. You may open a checking or savings account after you have registered as long as you have a Social Security card or will obtain one immediately. If you need to borrow money for the first month or two, Campus Federal will make you a loan if you can find a faculty member who will co-sign the note. The Credit Union is open Monday through Friday from 8:30 a.m. - 4:00 p.m.

To get a Social Security card, take your visa, passport and student registration to the Social Security office located at 3615 Tulane Avenue. Don't forget to bring identification (such as your passport) as well as your student ID. It will take several weeks to receive your card.

C. Dissertation Expenses

The student is responsible for all expenses related to preparation of the dissertation.

D. Extramural Support

In consultation with their mentor, all students are encouraged to apply for extramural support (e.g., NIH, American Heart Association, Cancer Association of Greater New Orleans) within the first three years of study. Only students enrolled on an unconditional basis and in good academic standing will be allowed to apply for extramural grant support. Failure to obtain extramural support will **not** affect the student's academic standing in the Department.

E. Foreign Language Requirement

The Department of Pharmacology does not require a foreign language to fulfill degree requirements.

F. Good Laboratory Practice

All students must demonstrate good, proper and safe laboratory practices. Each student will follow standardized laboratory procedures as described by LSU Health Sciences Center, including radiation safety and proper use and care of laboratory animals. Each faculty member has access to the appropriate manuals, and students are expected to become familiar with these procedures during their tenure. The safety department offers a training course every semester.

G. Graduate Student Council

The Graduate Student Council of LSU Health Sciences Center consists of a student representative from each basic science department. This group encourages interactions among students from various departments, seeks to inform students of services that are available to them and functions as a liaison among faculty, students and the Office of the Dean. The Council meets monthly and officers are selected by the members for 1-year terms.

H. Holidays

The normal LSUHSC holidays are Independence Day, Martin Luther King Day, Labor Day, Thanksgiving, Christmas, New Years, Mardi Gras, and Easter. The time between semesters is to be utilized as an active part of the research experience. Any student leaving the Department for any reason for an extended period must request approval in writing for such leave stating the reasons for the absence. Approval for such leave may be granted by the student's mentor or the Department Head. Discontinuance of stipend support may be incurred depending upon the length of leave.

I. Housing

Many housing options are available in the Greater New Orleans Metropolitan Area including an on-campus dormitory. Students can apply for admission to the dormitory by contacting the manager of the facility. The classified section of the *Times Picayune* has an extensive listing of apartments and houses for rent at modest rates. The Tulane Uptown Campus also has a list of available apartments at their University Center.

J. Student Journal Club

Graduate students meet once a month informally to discuss a paper presented by one of the students. Each student is expected to take a turn in choosing a paper and leading the group in a discussion pointing out the strengths and weaknesses of the paper. The purpose of this exercise is to help students interpret figures and data, express themselves orally, and to get to know each other in an environment outside of the classroom or the laboratory.

K. Libraries

The Health Sciences is supported by two libraries: the Medical Library which is located on the 3rd floor of the Resource Center (433 Bolivar) and the Dental Library which is located on the 3rd floor of the Administration Building at the School of Dentistry. A valid LSU Health Sciences Center ID is required for checking out library materials.

L. Masters Degree from Other Institutions

Students entering the Ph.D. program with a professional degree or a Masters degree from another university are required to take all required courses. However, students can request a waiver from the faculty for areas of study in which they have adequate prior training. Any request for waiver will be presented to the GTC by the Graduate Coordinator. With Departmental approval, up to 15 hours of credits can be transferred from an accredited institution. Special circumstances are handled by the Dean's office. Credits will not be transferred from courses in which a grade below B was received and any credit transfer does not alter the residency requirement.

M. Outside Employment

Graduate school is a full-time endeavor and students are discouraged from pursuing outside employment. Although the University does not prohibit outside employment by a graduate student, the student should be aware that Assistantship stipends are for services rendered and are not scholarships. The Department requires that students participate in teaching and research functions to fulfill service requirements.

It is recognized that certain circumstances may arise and that a student's situation may be complicated by family responsibilities and other factors. In such cases it is recommended that the student seek the counsel and advice of their mentor on the matter of personal finances and possible solutions to the problem. It is recognized that stipends for graduate students are not lucrative but it is hoped that, with

careful planning, they will cover essential expenses for the student whose situation is not encumbered by too many complicating factors.

N. Parking

There are several parking lots that are dedicated for student parking at a modest cost (currently \$45) at LSU Health Sciences Center. There is ample parking at the Dental School campus and a free shuttle runs between the Medical Education Building and the Dental School. Transfer of parking privileges from one vehicle to another can be arranged by contacting the Parking Office which is located at the 1st floor of the Allied Health Building – Phone: 568-4884.

O. Participation in Departmental Duties and Functions

Each graduate student is a member of the Department. Therefore, in consultation with their mentor, they are expected to participate in any functions and/or duties that may be required by the Department.

P. Procedure for Review of Academic Dismissal

The procedure for academic dismissal review is as follows:

1. Upon notification of a departmental decision that the student's performance is unsatisfactory the Department Head will notify the student of the faculty's recommendation for dismissal.
2. If the student thinks the dismissal is not justified, the student shall forward a written request for review of the reasons and actions leading to dismissal to the Graduate Coordinator. This letter should outline the student's grievances in detail. In addition, the student should recommend a Review Committee that will consist of two graduate faculty members and a graduate student in good standing in the Department of Pharmacology. The Department Head will be an *ad hoc* member of the Review Committee.
3. The Review Committee shall elect a Chair and convene the Committee as soon as possible. Normally it is expected that the review process will be completed within two weeks of its formal initiation by the student.
4. The student requesting the review shall have the opportunity to discuss their grievances directly with the Committee and provide any supporting material relevant to the review.
5. The Review Committee shall then determine what additional information or consultation is necessary to complete their review.
6. Upon review of relevant information, the Review Committee shall communicate their findings and recommendations in writing to the student and the Graduate Coordinator. The Committee's report should include major considerations in the decision. The Department Head, in consultation with the faculty, will make a final decision on the review.
7. All written records of the foregoing procedure will be considered confidential communications, and may be released for general information only with the consent of both the student and the Department Head.

Q. Safety

It is important to realize that, as in many large cities, there are certain areas of New Orleans in which you should not go walking or bicycling. Be sure to ask when you get here which parts of the city you should avoid. Also be careful when you are out after dark, especially in the French Quarter where you could lose your wallet/purse to pickpockets or muggers.

Security is far from ideal in the vicinity of the Health Sciences Center and the Dental School. It is best to keep your car locked, even when you are in it, and to park in designated student lots. LSUHSC maintains a security force of police who are on duty 24 hours a day.

Emergency (Police or Fire):	568-8999
General Situations (Police)	
Dental School:	619-8645
Lions/LSU Clinic Bldg:	568-4461
Resource Center (HQ):	568-4880
Medical Education Bldg.:	568-7714
Residence Hall:	568-6190
New Orleans Police (General):	821-2222
New Orleans Fire Department:	581-3472

When in doubt, dial **911** to obtain emergency assistance.

R. Seminars

The Department of Pharmacology has a seminar series each year. The program includes presentations by visiting scientists as well as faculty, post doctoral fellows and graduate students from LSUHSC.

Graduate students are expected to attend all seminars and are required to present at least one seminar each year. The purpose is to aid in becoming proficient in presentations of all types as well as communicating ideas to colleagues and students. The organization of the seminar is the responsibility of the student; however, faculty members are available for assistance and advice during the preparation of the seminar. Advanced students are required to present a seminar on their research accomplishments each year. Students will receive written or oral feedback from the faculty and will be evaluated on the overall performance.

S. Stipends

The Department of Pharmacology may provide financial assistance to students in the form of a stipend that usually includes a waiver of tuition. The numbers of these stipends are limited and are awarded to beginning students on a competitive basis prior to the start of the academic year. Students awarded stipends must maintain a 3.0 average to retain their support. If a student's grade point average falls below 3.0 financial support will be withdrawn. Financial support may be reinstated when the student's

grade point average is brought back to at least 3.0. Departmental stipends generally provide support for no longer than five years of full time study.

If the faculty determines that a student is to receive the M.S. degree instead of the Ph.D., the student shall receive financial support for no more than one year after this determination has been made.

T. Student Health

All enrolled students must have health insurance. Students who have their own health insurance must certify, by signed waiver, other coverage at the time of registration. Students who do not provide certification of other health insurance must enroll in the Health Sciences Center Health Insurance program. Prior to the completion of registration, students must also submit the complete Student Health History and Physical Examination form and documentation of titer level or immunization for the following: measles, mumps, rubella, diphtheria, tetanus, poliomyelitis and hepatitis B.

A Student Health Service is maintained in the Lions-LSU Clinic Building, adjacent to the Medical Education Building. Outpatient care is provided and the cost is supplemented by student fees. A physician is on call 24 hours a day. Short-term mental health care also is provided for full-time enrolled students. Phone: 412-1503 – Dr. Angela McLean

A health promotion program is also available to graduate students at LSU Health Sciences Center and includes training in aerobics, stress management, time management, and other wellness activities. Phone: 568-2565 – Mike Webster

U. Teaching

An important component of graduate training is to develop the ability to communicate through teaching. Therefore, all graduate students in the Department are required to participate in teaching during their graduate tenure. The Department teaches courses to Dental Hygiene, Nursing, Allied Health, Dental and Medical students. During the first year or two, students will assist in proctoring examinations. After satisfactory completion of Pharmacology 195, students will also have assigned lectures in courses taught by the Department. Students will be assigned no more than eight contact hours of lectures per year. Topics and number of lecture hours are assigned by the course directors in consultation with the Graduate Coordinator, student, mentor, and Department Head.

V. Travel

The Department believes that attendance at national scientific meetings is a beneficial part of graduate training. Depending upon the availability of funds, the Department will attempt to send all students beyond the first year to present data at one national meeting a year.

W. Visas

International students must provide a copy of their visa(s) to the Graduate Coordinator for inclusion in the student's file. Any problems or questions regarding immigration on visas should be addressed to Ms. Rose Chatelain, Assistant to the Chancellor (2nd Floor, Resource Center; 568-4802).

VIII. Forms

A. Check List

It is the responsibility of the student to maintain this form up to date and to meet all requirements on time. The student must also inform their mentor of the completion of each requirement.

Date Completed

1. _____ Rotate through two laboratories of departmental faculty.
2. _____ Select a mentor.
3. _____ Complete required courses.
4. _____ Arrange preliminary examination date, time and place. Obtain and process forms from the School of Graduate Studies.
5. _____ Pass preliminary examination.
6. _____ Select dissertation committee.
7. _____ Present dissertation proposal.
8. _____ Finish elective courses.
9. _____ Finish laboratory work and begin writing dissertation.
10. _____ Inform graduate school of intent to graduate during registration for final semester.
11. _____ Obtain mentor's approval for distribution of dissertation to members of Dissertation Committee.
12. _____ Distribute dissertation to committee members. Provide two copies for Pharmacology Office.
13. _____ Obtain and process forms from School of Graduate Studies concerning dissertation defense.
14. _____ Collect and discuss changes in dissertation proposed by dissertation committee members.
15. _____ Final defense of revised dissertation.
16. _____ Present completed forms and copies of final dissertation to School of Graduate Studies.

B. Request for Preliminary Examination

See web site (<http://graduatestudies.lsuhsu.edu/Forms/prelim1.pdf>)

C. Report of Preliminary Examination

See web site (<http://graduatestudies.lsuhsu.edu/Forms/prelim2.pdf>)

D. Request for Dissertation/Thesis Defense and Final Examination

See web site (<http://graduatestudies.lsuhsu.edu/Forms/final1.pdf>)

E. Dissertation/Thesis Defense Final Examination Report

See web site (<http://graduatestudies.lsuhsu.edu/Forms/final2.pdf>)