

## Emphasis - Pharmacology

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### Ph.D. in Pharmaceutical Sciences Description

The Ph.D. in pharmaceutical sciences can be completed with an emphasis in environmental toxicology, medicinal chemistry, pharmaceuticals, pharmacology, pharmacognosy, or pharmacy administration.

**Minimum Total Credit Hours: 57**

#### Course Requirements

Requirements for each emphasis area are given in the respective program description sections.

### Emphasis - Pharmacology Description

A Ph.D. in pharmaceutical sciences with emphasis in pharmacology is designed to prepare graduate students to apply understanding of basic pharmacology so as to strengthen their academic foundation and skills that lead to professional careers as pharmacologists. Graduates are likely to find careers positions within academic, industry, or government service.

#### Goals/Mission Statement

The mission of the Department of Pharmacology is to train future scientists and educators in the fields of pharmacology and toxicology. To accomplish our mission, we provide didactic, practical, and hands-on training in all aspects of these disciplines to our students. The ultimate goals of our program are to contribute to the knowledge base of the disciplines of pharmacology and toxicology and to produce well-trained scientists who can engage in successful and productive careers in pharmacology and toxicology.

#### Course Requirements

The requirements for the Ph.D. in pharmaceutical sciences with an emphasis in pharmacology consist of a minimum of 18 core course hours:

Course	Hours
Phcl 675: Principles of Pharmacology and Toxicology I	4
Phcl 676: Principles of Pharmacology and Toxicology II	4
Bisc 504 Biometry (or Psy 703)	3
BMS 605: ORP	1
and BMS 601: Graduate Student Survival Strategies	2

Additionally one of the following 4-credit courses:

- Phcl 661: Adv. Physiology I
- Phcl 662: Adv. Physiology II
- Phcl 669: Physiological Chemistry)

and a minimum of 10 course hour electives, exclusive of graded seminars (see below), from biomolecular sciences, biology, chemistry, engineering or other graduate-level programs (contingent upon Division of Pharmacology faculty approval).

#### Seminar Requirement

Students are required to register for BMS 643 (Z grade) every semester, with the exception of those semesters in which the student presents a seminar and instead registers for BMS 641 (graded). No more than 8 seminar hours can be used toward the 54 minimum total credit hours. A minimum of 18 hours of dissertation research must also be taken to meet degree requirements.

#### Other Academic Requirements

##### Original Research Proposal

A student must prepare, submit, and successfully (orally) defend an original research proposal (ORP). Procedures for this requirement will be provided by the department. Students will register for BMS 605 (Original Research Proposal BioMolecular Sciences) in the semester they anticipate defending their ORP.

##### Dissertation

A student must prepare and orally defend a dissertation based on original, independent research in partial fulfillment of their Ph.D. degree.

