

## Emphasis - Pharmacognosy

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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 - Pharmacognosy Description

The Ph.D. in pharmaceutical sciences with emphasis in pharmacognosy involves the study of bioactive natural substances found in terrestrial and marine organisms. "Pharmacognosy" derives from the Greek words "pharmakon" or drug, and "gnosis" or knowledge. The program prepares students for academic or research positions in universities, and industrial or government institutions.

### Goals/Mission Statement

The Department of Pharmacognosy seeks to contribute to the expansion and advancement of knowledge in the pharmaceutical sciences and related areas through cutting-edge research activities, both basic and applied, and to engage in other scholarly pursuits. This includes as a major emphasis the discovery of new potential chemotherapeutic agents through a study of naturally occurring biologically active substances.

The Ph.D. program emphasizes the chemistry and biology of natural products; the mechanisms of drug actions; the isolation, purification, analysis, structure determination, biosynthesis, and synthesis of naturally occurring substances; structure-activity relationships of bioactive substances; and analytical procedures involving drugs and their metabolites.

### Course Requirements

Requirements for the Ph.D. with an emphasis in pharmacognosy include the following core courses:

1. Seminar on Current Topics of Interest in Natural Product Chemistry (Phcg 543, 544, 643, 644), 4 hours
2. Natural Product Chemistry (Phcg 627, 628), 6 hours
3. Selected Topics in Pharmacognosy (Phcg 620), Introduction to Molecular Cell Biology, 6 hours

A Ph.D. student will take at least four additional 500/600 level courses, at least three of which are from outside the department from the fields of pharmacology, biochemistry, medicinal chemistry, organic chemistry, botany, microbiology, marine biology, or other approved electives.

## Other Academic Requirements

### Seminars

Each semester, a seminar program will be arranged. Each student will present a minimum of four seminars during the period of graduate study, two on assigned topics, one on a topic of his/her choice, and his/her dissertation defense.

### Comprehensive Examination

For admission to candidacy, the student must successfully complete both written and oral comprehensive examinations administered by the faculty of the department. The oral comprehensive examination will be given within 60 days of the completion of the written comprehensive examination. Students who fail to pass the required comprehensive examinations after two attempts will be terminated from the doctoral program.

### Original Research Proposal

Within six months of passing the oral comprehensive examination, doctoral students will submit and orally defend an original research proposal.

### Dissertation

After completing all other requirements, a doctoral candidate must present and orally defend his/her dissertation, which is based on original, independent research. This defense is before the student's dissertation committee.

## Degree Requirements

The academic regulations for this degree program, as entered in the University of Mississippi Catalog, are in effect for the current or selected academic year and semester. The University of Mississippi reserves the right to 1) change or withdraw courses; 2) change rules for registration, instruction, and graduation; and 3) change other regulations affecting the student body at any time.

## Ph.D. in Pharmaceutical Sciences

| REQUIREMENT        | HOURS | DESCRIPTION  |
|--------------------|-------|--|
| Select an emphasis |       | Student must enroll in one of the Ph. D. in Pharmaceutical Sciences emphasis areas: medicinal chemistry, pharmaceuticals, pharmacognosy, environmental toxicology, pharmacy administration or pharmacology/toxicology, |
| GPA requirements   |       | A cumulative average of not less than 3.0 (B) must be achieved in all graduate work taken.   |



| REQUIREMENT              | HOURS | DESCRIPTION  |
|--------------------------|-------|--|
| Pharmacy Dean's approval |       | This Degree Audit program is an advising tool only. The dean's office will make the final certification that the student qualifies for graduation. The dean's office will also determine if other university or school requirements (GPA, etc.) have been met. |

### Emphasis - Pharmacognosy

| REQUIREMENT                      | HOURS | DESCRIPTION  |
|----------------------------------|-------|--|
| <a href="#">Phcg 543</a> - C min | 1     | Complete <a href="#">Phcg 543</a> with a grade of C or better.   |
| <a href="#">Phcg 544</a> - C min | 1     | Complete <a href="#">Phcg 544</a> with a grade of C or better.   |
| <a href="#">Phcg 620</a> - C min | 3     | Complete <a href="#">Phcg 620</a> with a grade of C or better.   |
| <a href="#">Phcg 627</a> - C min | 3     | Complete <a href="#">Phcg 627</a> with a grade of C or better.   |
| <a href="#">Phcg 628</a> - C min | 3     | Complete <a href="#">Phcg 628</a> with a grade of C or better.   |
| <a href="#">Phcg 643</a>         | 1     | Complete <a href="#">Phcg 643</a> .  |
| <a href="#">Phcg 644</a>         | 1     | Complete <a href="#">Phcg 644</a> .  |
| <a href="#">Phcg 797</a>         | 18    | Complete at least 18 hours of dissertation credits ( <a href="#">Phcg 797</a> ).   |
| Comprehensive exam               |       | Student must pass a comprehensive examination.   |
| Elective courses                 | 4     | Student must take at least four additional 500/600 level courses, at least three of which are from outside the department from the fields of pharmacology, biochemistry, medicinal chemistry, organic chemistry, botany, microbiology, marine biology, or other approved electives.  |
| Oral defense                     |       | Every candidate for the Ph.D. degree must successfully pass a final oral examination (defense of dissertation) administered by the student's dissertation committee and scheduled by the Graduate School.  |
| Research proposal                |       | Student must submit and orally defend an original research proposal.   |
| Submit Dissertation              |       | Student must submit a dissertation to his/her GPC/Chair. The dissertation must conform to the regulations governing style set forth in "A Manual of Thesis and Dissertations Preparations", available in the Graduate School Office. Two copies of the dissertation must be presented to the Graduate School after the final examination for the doctorate has been accepted and before the beginning of the regular examination period for the semester in which the candidate plans to graduate. |

