



## PROGRAM GOALS

The goals of the Pharmaceutical and Chemical Sciences Program (PCSP) curriculum are:

- to prepare students for the challenges of both pure and applied research
- to advance knowledge in pharmaceutical and chemical sciences
- to encourage fundamental discovery in the chemical, pharmaceutical and healthcare sciences
- to attain advanced degrees

## GRADUATE DEGREES IN PHARMACEUTICAL AND CHEMICAL SCIENCES

The mission of the PCSP Graduate Program is to prepare Doctor of Philosophy and Master of Science graduates for increasingly complex and integrated research in the pharmaceutical, chemical and biotechnological environment.

Our program offers students five research focus areas through four departments (see back). In addition to core classes, students also receive general training in industrial process and methodology, laboratory management, risk management and safety, instrumentation and laboratory techniques, statistics and experiential design, ethical and legal aspects of scientific inquiry, exposure to the basic and clinical sciences related to the pharmaceutical industry and experience in professional presentations and data summaries.

If selected for a graduate assistantship, you will be provided with a teaching research stipend and tuition remission.



## CONTACT INFORMATION

PHARMACEUTICAL AND  
CHEMICAL SCIENCES

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## Focus Areas

### BIOANALYTICAL AND PHYSICAL CHEMISTRY

Investigation of chemical, biochemical and biomedical questions using a broad range of computational and experimental tools including state-of-the-art instrumentation, synthetic methods and molecular techniques.

This area of focus is offered through the Department of Chemistry.

### CHEMICAL SYNTHESIS, DRUG DISCOVERY AND DESIGN

Discovery and development of new chemical entities from (synthetic and natural product sources) as potential drugs; new methods of chemical synthesis and structural elucidation.

This area of focus is offered in conjunction with the Department of Chemistry and Department of Pharmaceutics & Medicinal Chemistry.

### DRUG TARGETING AND DELIVERY

Design and application of new systems for optimizing drug delivery to specific organs or other biological targets as well as pharmacokinetics.

This area of focus is offered through the Department of Pharmaceutics and Medicinal Chemistry.

### MOLECULAR-CELLULAR PHARMACOLOGY AND TOXICOLOGY

Investigations using enzymology, cell cultures and laboratory animals, of the mechanisms by which drugs and other bioactive chemicals affect cellular processes and how drugs are metabolized.

This focus area is offered in conjunction with the Department of Physiology & Pharmacology and the Department of Pharmaceutics & Medicinal Chemistry.

### CLINICAL PHARMACY AND TRANSITIONAL STUDIES

Focus on clinical areas in pharmaceutical sciences and the translation of research findings between basic sciences and their application to drug therapy in patients.

This focus area is offered through the Department of Pharmacy Practice.

## Degree Requirements

The minimum requirements are 32 units and thesis for the M.S. degree and 45 units and dissertation for the Ph.D. degree.

## Financial Aid

Stipends and tuition remission are awarded to students on a competitive basis. Stipends are awarded for students that serve as teaching assistants or research assistants. Tuition remission pertains to units that the department provides to graduate students to help defray the cost of tuition. For many entering graduate students, individuals receive sufficient tuition remission to pay for the entire cost of tuition. Earnings from the graduate stipends can be used to pay for rent, groceries and other cost of living expenses.

## Admission Requirements

- The GRE General Exam is required. Subject test is optional. The minimum requirements: Verbal and Quantitative = 1100 and Analytical = 3.0. GRE scores can be no older than 5 years old.
- A bachelor's degree with an average GPA of B (3.0), or higher, in all upper-division coursework.
- The TOEFL (Test of English as a Foreign Language) is required for applicants whose native/principle language of instruction is not English. The minimum acceptable TOEFL scores for admission are 550 (paper-based), or 213 (computer-based), or 79-80 (Internet-based). For those applicants applying for a teaching assistantship, the minimum TOEFL scores are 575 (paper), or 230 (computer), or 89-90 (Internet). TOEFL scores can be no older than 2 years old.
- An essay or personal statement that focuses on the applicant's career objectives and personal ideals. Grammar and writing skills are an important part of the evaluation.
- Three letters of recommendation. Letters of recommendation can be no older than 1 year old.
- International students must provide supporting bank documentation which can be no older than 6 months old.
- Bachelor of Science or Bachelor of Arts degree.