

# Drug Discovery, Certificate

The undergraduate Certificate in Drug Discovery requires a minimum of 16 s.h. of credit. Students must maintain a g.p.a. of at least 2.50 in required course work for the certificate. The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a UI graduate or professional degree program.

Students may count a maximum of 6 s.h. completed for a major, minor, or another certificate toward the Certificate in Drug Discovery.

The certificate program provides an introduction to the properties of molecules that influence their suitability and effectiveness as drug therapies. Students learn about concepts and approaches used in successful drug design; synthetic and biological approaches to produce high-quality drug substances; common metabolic and toxicologic pathways that affect drug safety; biological targets for drug action and high throughput methods leading to the discovery of active drug molecules; chemical and material properties of active agents suitable for drug product development; and the approval process for drug candidates. They will be prepared for opportunities in the pharmaceutical and biotechnology industries, regulatory agencies or sciences, or for advanced graduate or professional education.

Some of these courses have prerequisites; students must complete all of a course's prerequisites before they may register for a course. Prerequisite course work does not count toward certificate requirements.

The Certificate in Drug Discovery requires the following course work.

Code	Title	Hours
One of these:		
PHAR:1100	Introduction to Pharmaceutical Sciences: Drug Development	2
PHAR:1111	Need a New Drug?	1
All of these:		
PHAR:1200	Medicines That Changed or Will Change the World	1
PHAR:4501	Basic Principles of Toxicology	1
PHAR:4502	Toxic Agents	1
PHAR:4503	Organ and Organism Toxicity	1
PHAR:4512	Principles of Drug Discovery	3
PHAR:4800	Chemical and Biophysical Properties of Drugs	1
Principles and approaches to medicinal chemistry course (consult advisor)		3
Small molecule drug design course (consult advisor)		3
One of these:		
PHAR:4521	High Throughput Screening in Drug Discovery	1
Introduction to biocatalysis in drug discovery course (consult advisor)		2

## Admission

Applicants must have a cumulative g.p.a. of at least 3.00, and earn a minimum grade of B-minus in all prerequisite course work. Those who do not meet the admission requirements should contact the associate dean for undergraduate education to discuss admission to the certificate program.

Students must submit an enrollment questionnaire to the College of Pharmacy's Office of Undergraduate Education (OUE) to request admission to the certificate program.