Twin Cities Campus

Pharmacology Minor

College of Biological Sciences - Adm

College of Biological Sciences

- Program Type: Undergraduate free-standing minor
- Requirements for this program are current for Fall 2023
- Required credits in this minor: 20 to 22

Pharmacology studies how drugs affect biological systems. It is the foundation of medicine, pharmacy, dentistry, veterinary medicine, nursing, and other health care professions. Pharmacology employs scientific principles and techniques of its own, as well as from disciplines such as physiology, biochemistry, cellular and molecular biology, microbiology, immunology, genetics, structural biology, and pathology. The objectives of pharmacology include identifying new targets for therapeutic intervention, developing new therapeutics, and understanding environmental/toxicological implications.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

A GPA above 2.0 is preferred for the following:

- 2.50 already admitted to the degree-granting college
- 2.50 transferring from another University of Minnesota college
- 2.50 transferring from outside the University

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Required prerequisites

Prerequisite courses

These courses are prerequisites to required minor coursework.

Biology

BIOL 1009 - General Biology [BIOL] (4.0 cr)
BIOL 1951 - Foundations of Biology Lecture I for Biological Sciences Majors [BIOL] (4.0 cr)
or BIOL 1951H - Foundations of Biology Lecture I for Biological Sciences Majors [BIOL] (4.0 cr)
BIOL 1961 - Foundations of Biology Lab I for Biological Sciences Majors [BIOL] (2.0 cr)

Chemistry

CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)
CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
or CHEM 1081 - Chemistry for the Life Sciences I [PHYS] (3.0 cr)
or CHEM 1071H - Honors Chemistry I [PHYS] (3.0 cr)
CHEM 1075H - Honors Chemistry I Laboratory [PHYS] (1.0 cr)

Minor Requirements

Students who wish to declare a minor in pharmacology can do so online at the College of Biological Sciences website. The minor requires a minimum of 12 credits.

Pharmacology Minor Required Courses

PHCL 3100 - Pharmacology for Pre-Med and Life Science Students (2.0 cr)
PHCL 2001 - Basic Principles of Pharmacology: A Drug's Fantastic Voyage (2.0 cr)
or PHCL 4001 - Mechanisms of Drug Action (2.0 cr)

Pharmacology Elective Courses

Take 5 - 8 credit(s) from the following:

- PHCL 4001 - Mechanisms of Drug Action (2.0 cr)
- PHCL 4003 - Anti-infective drugs: Drugs that kill invaders (2.0 cr)
- PHCL 4010 - Current Research Topics in Pharmacology (2.0 cr)
- PHCL 4020 - Chemotherapy: from current anticancer drugs to future cancer therapeutics (3.0 cr)
- PHCL 4100 - Laboratory in Molecular Pharmacology (2.0 cr)
- PHCL 4343 - Pharmacology of the Synapse (3.0 cr)
- PHCL 5111 - Pharmacogenomics (3.0 cr)

© 2005 by the Regents of the University of Minnesota
The University of Minnesota is an equal opportunity educator and employer.

Directed Research, Directed Study, or Additional Coursework

Take 0 - 3 credit(s) from the following:

- PHCL 4994 - Directed Research (1.0 - 3.0 cr)
- PHCL 4993 - Directed Studies (1.0 - 3.0 cr)
- PHSL 3xxx
- PHSL 4xxx
- PHSL 5xxx
- BIOC 4xxx
- BIOC 5xxx
- BIOL 3xxx
- BIOL 4xxx
- BIOL 5xxx
- NSCI 4xxx
- NSCI 5xxx
- GCD 4xxx
- PMB 4111 - Microbial Physiology and Diversity (3.0 cr)
- PMB 4121 - Microbial Ecology and Applied Microbiology (3.0 cr)
- MICB 4131 - Immunology (3.0 cr)
- MICB 4151 - Molecular and Genetic Bases for Microbial Diseases (3.0 cr)
- MICB 4161W - Eukaryotic Microbiology [WI] (3.0 cr)
- MICB 4171 - Biology, Genetics, and Pathogenesis of Viruses (3.0 cr)

© 2005 by the Regents of the University of Minnesota
The University of Minnesota is an equal opportunity educator and employer.