

PHARMACOLOGY AND TOXICOLOGY MINOR

Pharmacology and Toxicology - Undergraduate Minor

The interdisciplinary pharmacology and toxicology minor is intended to significantly increase the number of ISU graduates who can:

- Understand, use and define key terms and concepts related to pharmacology and toxicology;
- Apply concepts and standard practices in pharmacology and toxicology to solving practical problems relevant to these fields;
- Analyze scientific data in pharmacology and toxicology;
- Synthesize detailed and accurate descriptions of current knowledge on key topics in pharmacology and toxicology;
- Make informed decisions about current controversies in pharmacology and toxicology, using appropriate scientific methods and ethical reasoning.

The minor in Pharmacology and Toxicology may be earned by completing the following courses. All minors require at least 15 credits; 9 credits of the courses listed in the minor must not be used to meet any other department, college, or university requirement except the credit requirement for graduation. There are three required courses for all Pharmacology and Toxicology undergraduate minors: TOX 4010, BMS 4390, and one physiology course selected from BMS 3290, BMS 4380 or BIOL 3350. The remaining credits are fulfilled by any of the electives listed below.

Required Core Courses:

TOX 4010	Principles of Toxicology	3
BMS 4390	Principles of Pharmacology	4
Select one of the following:		3-4
BMS 3290	Anatomy and Physiology of Domestic Animals	
BMS 4380	Principles of Physiology	
BIOL 3350	Principles of Human and Other Animal Physiology	

Total Credits 10-11

Electives:

ENSCI 4240A	Air Pollution: Air Quality and Effects of Pollutants	1
ABE 4510	Food and Bioprocess Engineering	3
BBMB 3160	Principles of Biochemistry	3
BBMB 4040	Biochemistry I	3
BBMB 4050	Biochemistry II	3
BIOL 3190	Analysis of Environmental Systems	3
BIOL 4230	Developmental Biology	3

BIOL 4340	Endocrinology	3
BIOL 4360	Neurobiology	3
BME 4400	Biomedical Applications of Chemical Engineering	3
BMS 7443	Pharmacology and Therapeutics	3
BMS 4480	Principles of Human Gross Anatomy	4
CHEM 2110 & 2110L	Quantitative and Environmental Analysis and Quantitative and Environmental Analysis Laboratory	4
CHEM 2310	Elementary Organic Chemistry	3
CHEM 3310	Organic Chemistry I	3
ENSCI 4860	Aquatic Ecology	3
ENT 4500	Pesticides in the Environment	3
FSHN 2640	Fundamentals of Nutritional Biochemistry	3
FSHN 4420	Issues in Food and Society	2
FSHN 4610	Medical Nutrition and Disease I	4
FSHN 4640	Medical Nutrition and Disease II	4
FSHN 4670	Molecular Basis of Nutrition in Disease Etiology and Health Promotion	3
FSHN 4890	Issues in Food Safety	1
TOX 7354	General Pharmacology	3
TOX 4190	Foodborne Hazards	3
TOX 4200	Food Microbiology	3
TOX 4260	Veterinary Toxicology	3
TOX 4900	Independent Study	1-2
TOX 4990	Undergraduate Research	1-3