BIOMEDICAL SCIENCES

Professional Program of Study

For professional curriculum in veterinary medicine leading to the degree
doctor of veterinary medicine, see Veterinary Medicine

A good foundation in anatomy, physiology, and pharmacology of
animals is necessary to understand the mechanisms of animal disease
processes and their treatment. Study of mammalian anatomy and
physiology prepares students with a background in the structural and
functional activities of cells, tissues, organs, and body systems relevant
to veterinary medicine.

An understanding of drug action is essential for rational drug therapy.
The general pharmacology courses provide students with a background
in basic pharmacology to include pharmacodynamics, toxicology, and
the clinical application of drugs. Special emphasis is placed on chemical
agents and therapeutic practices specific to veterinary medicine.

Graduate Programs

The department offers Master of Science and Doctor of Philosophy
degrees with a major in Biomedical Sciences and specializations in
Anatomy, Physiology, Pharmacology, and Cell Biology. Up to 10 credits of
dual-listed veterinary courses may be applied for major graduate credit.

The objective of the department is to prepare graduate students for
successful careers in biomedical research and professional service.
The department is part of interdepartmental programs in neuroscience,
toxicology, and molecular, cellular, and developmental biology. The
combined Ph.D./DVM program is an option offered by the department.

Departmental research facilities allow for training in experimental
anatomy, pharmacology, and physiology. Graduate studies are supervised
by faculty members recognized in their areas of expertise. Current areas
of research include: Alzheimer’s disease, aquatic animal health, calcium
and mineral homeostasis, diabetes mellitus, glia-neuron signaling,
neuropysiology of pain, neurotoxicology, physiology and pharmacology
of nematode ion-channels, Parkinson’s disease, pharmacology of
schistosomiasis, pharmacology of salmonellosis, physiology and
pharmacology of thalamic neurons, physiology of the retina, Spinal
Muscular Atrophy, and study of neural stem cells.