

Pre-Veterinary Medicine

Specializing your Biology degree at Iowa State University

Have Questions About the Biology Major?
Visit Student Services in 103 Bessey Hall
or call 515-294-1064

Veterinarians provide health care services to non-human animals, including companion animals, livestock, wildlife, and zoo animals. They become skilled in microbiology, pathology, physiology, pharmacology, and surgery. Many vets become private practitioners, but training as a vet can also lead to careers in animal research, public health, food safety, regulatory medicine, and education.

Becoming a veterinarian requires specialized training and licensure, or completing a Doctor of Veterinary Medicine (DVM/VMD). There are many veterinary schools in the United States, and each has somewhat different entry requirements. We recommend students check out the Association of American Veterinary Medical Colleges (<http://www.aavmc.org>) to investigate possible programs and learn more about what is needed to get there. When pursuing a DVM, it may also be possible to concurrently earn a master of science (DVM/MS), master of public health (DVM/MPH), or Ph.D. (DVM/Ph.D.) with certain programs.

Although DVM programs do not have a strong preference of undergraduate majors for acceptance into their programs, most veterinarians have majored in a biological science in order to meet the necessary pre-requisites for application. The core courses of the Biology Program (BIOL 211/L, BIOL 212/L, BIOL 312, BIOL 313/L, BIOL 314, BIOL 315) and appropriate advanced courses provide very good preparation for pre-veterinary students. Pre-veterinary students should generally choose supporting coursework that is from the more challenging end of the Biology Program requirements, especially for chemistry. Students may also wish to take courses in business and accounting to prepare for private clinical practice environments. We also strongly recommend practical experience in an animal or biomedical research laboratory, either through an internship or research with a faculty mentor. Some veterinary schools require specific courses such as comparative anatomy or physiology, so begin investigating programs early and plan a degree program accordingly.

Suggested Advanced Biology Courses for Pre-Veterinary Medicine Students

Course #	Course Name	Credits
BIOL 335	Human & Animal Physiology	3
BIOL 335L	Human & Animal Phys Lab	1
BIOL 336	Ecol & Evol Animal Physiology	3
BIOL 351	Comparative Chordate Anatomy	5
BIOL 352	Vertebrate Histology	4
BIOL 353	Introductory Parasitology	3
BIOL 354	Animal Behavior	3
BIOL 354L	Animal Behavior Lab	1
BIOL 364	Invertebrate Biology	3-4
BIOL 365	Vertebrate Biology	4
BIOL 402	Introduction to Pathology	3
BIOL 423	Developmental Biology	3
BIOL 423L	Developmental Biology Lab	1
BIOL 428	Topics in Cell Biology	3
BIOL 434	Endocrinology	3
BIOL 436	Neurobiology	3

Course #	Course Name	Credits
BIOL 457	Herpetology	2
BIOL 457L	Herpetology Lab	1
BIOL 458	Ornithology	2
BIOL 458L	Ornithology Lab	1
BIOL 459	Mammalogy	2
BIOL 459L	Mammalogy Lab	1
BIOL 490	Independent Study	1
BIOL 491	Undergraduate Teaching Exp.	1-2
BIOL 494	Biology Internship	1-3
BIOL 499	Undergraduate Research Exp.	1-3
EEOB 507	Advanced Animal Behavior	3

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Course #	Course Name	Credits	Course #	Course Name	Credits
A ECL 454	Principles of Wildlife Disease	3	B M S 329	Anat & Phys of Domestic Anim.	3
AN S 319	Animal Nutrition	3	B M S 401	Intro Aquatic Animal Medicine	1
AN S 331	Domestic Animal Reprod.	3	ENT 374	Insects & Our Health	3
AN S 332	Lab Methods in Animal Reprod.	1	ENT 374L	Insects & Our Health Lab	1
AN S 333	Embryo Transfer & Related Tech.	3	MICRO 302	Biology of Microorganisms	3
AN S 334	Embryo Transfer Lab	1	MICRO 302L	Biology of Microorganisms Lab	1
AN S 337	Lactation	3	MICRO 310	Medical Microbiology	3
AN S 345	Growth/Dev't Domestic Anim.	3	MICRO 310	Medical Microbiology Lab	1
AN S 352	Genetic Imp'vt Domestic Anim.	3	MICRO 408	Virology	3
AN S 419	Advanced Animal Nutrition	2	MICRO 475	Immunology	3
ANTHR 307	Biological Anthropology	3	PSYCH 310	Brain and Behavior	3
ANTHR 319	Skeletal Biology	3	PSYCH 315	Drugs and Behavior	3
ANTHR 350	Primate Behavior	3			
BBMB 405	Biochemistry II	3			
BBMB 411	Techniques in Biochem Rsch.	4			
BBMB 420	Mammalian Biochemistry	3			

Suggested Supporting Science Courses

Pre-veterinary students should plan to take a full year of general chemistry (CHEM 177 + CHEM 177L, and CHEM 178 + CHEM 178L), a full year of organic chemistry (CHEM 331 + CHEM 331L, and CHEM 332 + CHEM 332L), and strongly consider taking more advanced biochemistry courses (i.e., BBMB 420, or BBMB 404 and BBMB 405). Pre-veterinary students should also consider taking a full year of physics (PHYS 111 and PHYS 112). Completing Biology Program requirements for math/statistics should meet most vet school entry requirements, but bear in mind that a few schools specifically require calculus.

Resources for Pre-Veterinary Medicine Students

Association of American Veterinary Medical Colleges (AAVMC): <http://www.aavmc.org>

List of schools with veterinary medicine programs: <http://www.aavmc.org/AAVMC-Members/Full-Member-Listing.aspx>

Information about standardized tests (these may be required in applying to veterinary schools):

MCAT: <https://www.aamc.org/students/applying/mcat/>

GRE: <http://www.ets.org/gre/>

Pre-Veterinary Medicine Club at ISU: <https://www.ans.iastate.edu/undergraduate/extracurricular/clubs/pre-vet-club>

Iowa State University College of Veterinary Medicine: <http://vetmed.iastate.edu>