

# VETERINARY MEDICINE



# WHAT IS A VETERINARIAN?



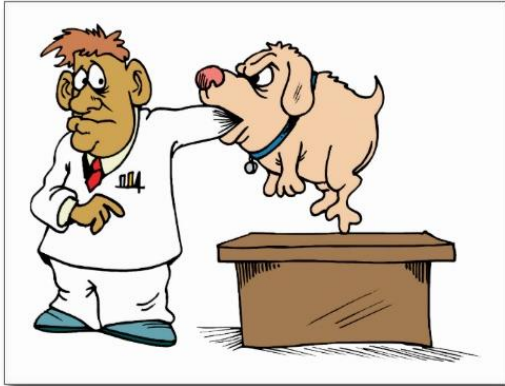
In a human's lifetime, there are 23 different doctors who may be involved in their care: the obstetrician, pediatrician, orthodontist, endodontist, dermatologist, internist, surgeon, radiologist, anesthesiologist, gynecologist, endocrinologist, psychiatrist, urologist, neurologist, psychoanalyst, pulmonologist, oncologist, ophthalmologist, nutritionist, cardiologist, gastroenterologist, geriatrist, and pathologist. Veterinarians need to know about all of these areas of animal medicine in order to take care of animals.

Veterinary school is a four-year professional school program following undergraduate in which students learn to prevent, diagnose, and treat illness in animals. Some veterinarians extend their education even further and specialize in an area, such as cancer treatment or emergency and critical care.

Besides medical skills, veterinarians often take a holistic approach to human well-being and animal welfare that, combined with communications and problem-solving skills, makes veterinarians uniquely qualified to fulfill a variety of roles. Many veterinarians, of course, provide care for companion animals through private medical practices, but veterinarians are also involved in promoting the health and welfare of farm animals, exotic animals, working animals (like those in the equine industry), and those that need a healthy environment in which to thrive, whether that environment is a rain forest, a desert or even the ocean.

Veterinarians not only treat our pets, they maintain the health of our livestock and the animals in the zoo; most importantly, they play a critical role in human health. Outside of companion animal practice, the largest employer of veterinarians in the United States is the U.S. Department of Agriculture's Food Safety and Inspection Service, but veterinarians are found throughout government in roles where they contribute to public health, the environment, and even homeland security, as well as working in research and public policy. Veterinarians work in areas that benefit people everyday by identifying and managing diseases so they cannot be transmitted from animals to humans, developing vaccines and pharmaceuticals, and looking at ways to prevent the spread of infection to humans through animal products such as meat or milk.

# VETERINARY SCHOOL REQUIREMENTS



Veterinary school pre-requisites vary widely from school to school. These courses are required by at least 21 of the 28 US vet schools:

- General Chemistry (with lab): 2 semesters
- Organic Chemistry (with lab): 2 semesters
- Biology or Zoology (with lab): 2 semesters
- Physics (with lab): 2 semesters
- Biochemistry: 1 semester
- Mathematics/Statistics
- English Composition
- Humanities/Social Sciences

## **Additionally:**

- Some schools may require Genetics, Microbiology, Speech/Public Speaking, Physiology, Nutrition, Animal Science, or other science electives. Check in with HPA early if you're interested in veterinary school.
- Though most prevet students major in biology or animal science, applicants to veterinary schools are not required to complete a specific undergraduate degree program or a designated pre-vet major.
- Veterinary medicine applicants should be prepared to present evidence of firsthand experience with animal care and some understanding of the duties and responsibilities of veterinarians and the scope of veterinary medicine. Some schools require a specific minimum number of documented hours of animal care.

# SAMPLE VET SCHOOL CURRICULUM

FROM U PENN - <http://www.vet.upenn.edu/education/academics-and-training/vmd-curriculum>

First Year		
Fall Semester	Quarter 3	Quarter 4
<ul style="list-style-type: none"> <li>» Gross Anatomy</li> <li>» Histology</li> <li>» Developmental Biology</li> <li>» Biochemistry</li> <li>» Intro to Clinical Veterinary Medicine I (ICVM I)</li> </ul>	<ul style="list-style-type: none"> <li>» Gross Anatomy (Cont.)</li> <li>» Neurosciences</li> <li>» Physiology</li> <li>» ICVM II</li> </ul>	<ul style="list-style-type: none"> <li>» Neurosciences (Cont.)</li> <li>» Physiology (Cont.)</li> <li>» ICVM III</li> <li>» Introduction to Radiology</li> <li>» Nutrition</li> <li>» Immunology</li> </ul>

Second Year		
Fall Semester	Quarter 3	Quarter 4
<ul style="list-style-type: none"> <li>» General and Systemic Pathology</li> <li>» Parasitology</li> <li>» Microbiology</li> <li>» Surgical Principles</li> <li>» Intro to Clinical Veterinary Medicine IV (ICVM IV)</li> </ul>	<ul style="list-style-type: none"> <li>» Pharmacology &amp; Toxicology</li> <li>» Intro Poultry/Swine/Dairy</li> <li>» Medicine/Surgery I</li> <li>» Clinical Pathology</li> <li>» Orthopedics</li> <li>» Intro to Clinical Veterinary Medicine IV (ICVM IV) (Cont.)</li> </ul>	<ul style="list-style-type: none"> <li>» Pharmacology/Toxicology (Cont.)</li> <li>» Epidemiology</li> <li>» Veterinary Public Health</li> <li>» Infectious &amp; Metabolic Diseases</li> <li>» Medicine/Surgery I (Cont.)</li> <li>» Clinical Pathology (Cont.)</li> <li>» Anesthesia</li> <li>» Intro to Clinical Veterinary Medicine IV (ICVM IV) (Cont.)</li> </ul>

Third Year		
Fall Semester	Quarter 3	Quarter 4
<ul style="list-style-type: none"> <li>» Vet. Medical Genetics</li> <li>» Reproduction</li> <li>» Med/Surg II</li> <li>» Vet. Ethical Issues</li> <li>» Clinical Exercises</li> <li>» Electives*</li> </ul>	<ul style="list-style-type: none"> <li>» Med/Surg III</li> <li>» Lab. Animal Med</li> <li>» Dermatology</li> <li>» Clin Animal Behav.</li> <li>» Clinical Exercises(Cont.)</li> <li>» Electives*</li> </ul>	<ul style="list-style-type: none"> <li>» Philadelphia:</li> <li>» Small Animal Block</li> <li>» Electives*</li> </ul>

Fourth Year				
Quarter 0	Quarter 1	Quarter 2	Quarter 3	Quarter 4
» Rotations 1-8	» Rotations 9-12	» Rotations 13-16	» Rotations 17-20	» Rotations 21-25

# VETERINARY CAREER PATHS

The following list is not exhaustive but provides an overview of careers where graduates of veterinary medical schools can effectively apply their Doctor of Veterinary Medicine (DVM) degrees.

- **Private practice**, either general practice or (with advanced training and experience) a specialty field, such as ophthalmology, orthopedics, aquatic animal medicine, marine biology, wildlife animal medicine, or emergency animal medicine.
- **Corporate veterinary medicine**, for example, with corporations that provide veterinary care, test human drugs for safety, or produce animal-related products.
- **The Federal Government** employs veterinarians through the United States Department of Agriculture (USDA), National Institutes of Health (NIH), Centers for Disease Control (CDC), and Food and Drug Administration (FDA) working on biosecurity, environmental quality, public health, meat inspection, regulatory medicine, and agricultural animal health, or the investigation of disease outbreaks.
- **The U.S. Army Corps** and **U.S. Air Force** offer career opportunities in areas such food safety and military working dog veterinary medicine. The military also provides advanced training in specialty areas for those who commit to service.
- **Research**, either in a university setting or with companies that produce animal-related products or pharmaceuticals.
- **Teaching, either in academia or non-professionals schools.** With 40 percent of aging faculty in academia eligible for retirement over the next 10 years, projections indicate an increasing need for qualified academics to teach in all disciplines of veterinary medicine.
- **Public Health**, particularly with governmental agencies such as the United State Public Health Service, which works to control the transmission of animal-to-human (zoonotic) diseases.
- **Food supply medicine**, with either the government or a food animal company.
- **Global Veterinary Medicine**, in private practice or with international agencies working in areas such as food production and safety or emerging diseases.
- **Public Policy**, working for governments on animal and zoonotic diseases, animal welfare, public health issues, or as consultants with non-governmental agencies.
- **Shelter medicine**, working with communities, and private or public agencies to ensure the health and well being of animal populations housed in shelters.

There are additional opportunities available with state and municipal governments, nonprofits, and in areas that require a background in comparative medicine.

# FOR MORE INFORMATION:

- Association of American Veterinary Medical Colleges: [AAVMC.org](http://AAVMC.org)
- American Veterinary Medical Association: [AVMA.org](http://AVMA.org)
- New Jersey Veterinary Medical Association: [NJVMA.org](http://NJVMA.org)
- World Veterinary Association: [WorldVet.org](http://WorldVet.org)

