THE MISSION

We are Missouri’s only College of Veterinary Medicine. Our mission is to educate and train outstanding clinicians and scientists, generate new knowledge, and foster economic growth, all of which promote and protect the health and welfare of animals and people. We are guided by a One Health/One Medicine philosophy, strengthened by campuswide collaborations with human medicine, animal and life sciences, agriculture, engineering, and the other health professions.

THE VETERINARIAN’S OATH

Being admitted to the profession of veterinary medicine, I solemnly swear to use my scientific knowledge and skills for the benefit of society through the protection of animal health and welfare, the prevention and relief of animal suffering, the conservation of animal resources, the promotion of public health, and the advancement of medical knowledge.

I will practice my profession conscientiously, with dignity, and in keeping with the principles of veterinary medical ethics.

I accept as a lifelong obligation the continual improvement of my professional knowledge and competence.
The University of Missouri complies with the Americans with Disabilities Act of 1990. If you have a disability and need accommodations in connection with receiving this publication in an alternative format, please notify us at Dean’s Office, W-205 Veterinary Medicine Building, College of Veterinary Medicine, University of Missouri, Columbia, MO 65211, as soon as possible so that necessary arrangements can be made. TTY users: Please call through Relay Missouri at 800-735-2966.

Additional information on the University of Missouri College of Veterinary Medicine may be obtained by writing to: Dean’s Office, W-205 Veterinary Medicine Building, College of Veterinary Medicine, University of Missouri, Columbia, MO 65211, or call 573-882-3554. Information is also available at: cvm.missouri.edu.
Welcome

Greetings from the Dean

Thank you for your interest in the College of Veterinary Medicine at the University of Missouri. Since 1884, MU has been on the frontier of veterinary teaching, healing, discovery and service. The college has graduated more than 3,700 new veterinarians who have gone on to meaningful careers in a variety of disciplines. Their accomplishments range from pioneering an artificial insemination technique to save the endangered African elephant to founding the largest pet insurance company in the nation. We truly attract the best and brightest to our profession.

The College of Veterinary Medicine strives to ensure that all of our students are prepared to pursue the path that most appeals to their strengths and interests, whether in companion animal care, research, public health, equine reproduction or helping to ensure the safety of the food supply. The college’s professional program leading to a DVM boasts a unique curricular structure, which provides
nearly two years of hands-on training in general and specialty clinics. Years one and two focus on instruction in high-tech, computer-based classrooms and labs. Years three and four are dedicated to clinical instruction, including such specialties as cardiology, community medicine, dentistry, food animal medicine, internal medicine, ophthalmology, neurology, neurosurgery, orthopedics, oncology and shelter medicine. This provides an extraordinary amount of time to explore all aspects of clinical care. Home base for this clinical training is the Veterinary Health Center, which encompasses our service centers: the small animal, equine and food animal hospitals, and our Veterinary Medical Diagnostic Laboratory. Dedicated staff work directly with students to customize preceptorship opportunities that allow them to explore career aspirations under the tutelage of knowledgeable, enthusiastic mentors.

In addition to our educational programs, the College of Veterinary Medicine is renowned for its research, particularly interdisciplinary research into new treatments that benefit both human and animal health — the One Health/One Medicine concept. These collaborative efforts have led to new pharmaceuticals and medical techniques:

- Veterinary medicine and human medicine oncologists developed samarium, a radiopharmaceutical that relieves the pain of bone cancer.
- Our Comparative Neurology Laboratory scientists were part of the team that identified the genetic link between degenerative myelopathy in dogs and Lou Gehrig’s disease afflicting people, leading to hope for new treatments for both species.

The college is also home to the Research Center for Human-Animal Interaction where studies explore how the bond between people and animals affects the health of both. I encourage prospective students to examine our dynamic Veterinary Research Scholars Program and CVM Research Day sponsored by Phi Zeta to learn more about research opportunities that veterinary students can pursue.

The MU College of Veterinary Medicine is indeed on an exciting journey of teaching, healing, discovery and service! I invite you to learn more about what we offer, and consider joining us.

Sincerely,

Neil. C. Olson, Dean
Does attending the University of Missouri for undergraduate coursework offer any advantage over attending another instate institution?

MU provides an excellent undergraduate education to prepare for the veterinary curriculum. There are many reasons for selecting an undergraduate institution: Financial considerations, location and academics are all necessary factors in the decision-making process. One should choose an institution based on academic needs and future career endeavors. Various undergraduate curricula provide quality educational preparedness for a veterinary program — some offer more extensive preparation than others. Prospective students should choose an academic institution based on a curriculum that provides sufficient exposure and the necessary preparation pursuant to that profession.

Is animal science the best major in preparation for competitive application and admission into a veterinary program?

Traditionally, animal science was the major field of study for veterinary medicine, and can provide a sound basis for a veterinary degree. However, it is no longer the predominant major or degree held by students entering the College of Veterinary Medicine. Other related fields of study, such as biological sciences, biochemistry and chemistry, also provide excellent preparation for entrance into a veterinary program. A significant percentage of applicants are not admitted into a veterinary program. Therefore, it would best serve the interests of all applicants to select a major based on their academic and secondary career interests.

Do I have to take the GRE?

Students applying to the University of Missouri College of Veterinary Medicine must submit their score from the GRE.

How much weight or emphasis is placed on my GRE score?

A student must achieve the minimum GRE to apply, and the GRE is given four academic points in the calculations for academic evaluation (4 percent of total points).

Is a bachelor’s degree required to be admitted into a veterinary program?

Completion of an undergraduate degree is not required in order to apply or to be admitted into the MU CVM. Prerequisite course requirements must be completed in order to be initially eligible to apply. A bachelor’s degree is needed to complete dual DVM/MS and DVM/MPH programs.
**How much emphasis is placed on shadowing and experience?**

Considerable emphasis is placed on the accumulation and quality of shadowing experience. The extent of an applicant’s experience reflects on their knowledge about the profession, depth of that knowledge, motivation, trust and reliability, attention to detail, ability to listen, ability to receive and apply constructive criticism, and their overall persistence.

**When should a prospective student begin the necessary preparation for becoming an applicant to a veterinary program?**

Students seeking admission into a professional veterinary curriculum begin at a variety of stages. Some begin in high school, others in college. However, latest trends show a significant number of prospective students start the process as early as junior high school. Earlier preparation allows the student to amass as much experience as possible during which time they can also acquire an extensive knowledge base of the profession, including an awareness of a broad range of career opportunities.

**Is there a GPA requirement to be admitted into a veterinary program?**

The University of Missouri College of Veterinary Medicine requires an applicant to have a minimum overall cumulative 3.0 GPA on a 4.0 scale in order to apply.

**Is there a minimum number of hours of experience (shadowing) required for a competitive application and subsequent admission?**

The University of Missouri College of Veterinary Medicine requires a minimum of 40 hours of observation experience with a veterinarian engaged in their normal work environment.

However, most successful applicants have more than 300 hours of experience with multiple species to be competitive.

**What are the prerequisite course requirements to be eligible to apply to a veterinary program?**

The University of Missouri requires completion of 60 prerequisite courses to be eligible to apply, as listed under the Admissions Guide/Admission Requirements/Preparation in Undergraduate College section on our website.

**Can I transfer into a veterinary program?**

There are many misconceptions with this process. One cannot transfer into a veterinary program from an undergraduate program.

The way one would transfer from a two- or four-year institution to another four-year institution does not apply by veterinary standards.

It is possible to transfer from an American Veterinary Medical Association-accredited veterinary program to another veterinary program, provided the two programs maintain congruency in their curricula. Acceptance into the program is based on the receiving institution; thus, the placement and status of the transferring student is subject to satisfying that institution’s (or programs) curriculum and course requirements to maintain their current status as a veterinary student.
Higher education has long played a vital role in Columbia, Missouri. Columbia College was established in 1851 by the Disciples of Christ Church as Christian Female College, the first women’s college west of the Mississippi. It became a coeducational, four-year college in the 1970s. Stephens College began as Baptist Female College in 1855. It changed its name to Stephens College for Women in 1870, and remains an all-female learning institution. The University of Missouri was founded in 1839 in Columbia as the first public university west of the Mississippi River and the first state university in Thomas Jefferson’s Louisiana Purchase territory. MU — the flagship of the four-campus University of Missouri System — provides all the benefits of two universities in one: It is a major land-grant institution and the state’s largest public research university.

Considered one of the nation’s top-tier institutions, MU, better known as Mizzou, has a reputation of excellence in teaching and research, and accounts for 70 percent of the research dollars flowing to Missouri’s public universities. Mizzou has a student population of nearly 35,000, and is Columbia’s largest employer with more than 13,000 full-time employees.

Other top industries in Columbia are healthcare and insurance. Columbia has one of the highest hospital-beds-per-capita ratios in the country. Money magazine, Men’s Journal, MSN.com and others have all called Columbia one of America’s best places to live because of its excellent quality of life.

The qualities that make Columbia so livable also make it a great place to pursue a professional education. Housing is plentiful both in town and in surrounding rural communities and can be found in price ranges to satisfy almost any budget.

Students at MU’s College of Veterinary Medicine pursue their education while enjoying the availability of a numerous recreational experiences. The campus itself is designated as a botanic garden, featuring more than 42,000 plants and trees in numerous thematic and special collection settings. A number of university buildings are listed on the National Register of Historic Places. The campus also boasts a top-tier Student Recreation Complex, one of the 10 largest facilities of its kind in the country, which features rock climbing walls, extensive cardio and strength-training equipment and a premier aquatics facility. MU is part of the SEC athletic conference, and the Mizzou Tigers offer sports fans thrilling competition throughout the academic year.

Downtown Columbia (the District) is directly adjacent to the MU campus and is packed with boutiques, restaurants and galleries. Throughout the year, parades, art festivals, film festivals and music festivals contribute to a vibrant atmosphere. The Citizen Jane Film Festival, hosted by Stephens College, celebrates some of the most daring, accomplished and interesting work by women filmmakers. The True/False Film Festival features documentaries, many freshly discovered from Sundance and other festivals.

Each fall in Stephens Lake Park, the Roots N Blues N BBQ Festival presents nationally known musicians performing bluegrass, blues, folk, gospel and other genres of American-based music, as well as barbecue food stands and half-marathon and 10K runs for the more athletically inclined.

Other shopping, dining and entertainment areas lie just outside the District, but are still within the city limits. Many of these can be reached by the Columbia Transit System or by the city’s scenic MKT Trail. The MKT trail is a nine-mile hiking and biking path with trailheads throughout Columbia, including one near the MU campus. The MKT trail also connects to the nation’s longest rails-to-trails project, the gravel-paved Katy Trail State Park, which stretches more than 237 miles.
Getting Here

Columbia is centrally located in Missouri along Interstate 70. It is served by a commercial airport, Columbia Regional Airport, which offers direct service to Chicago and Dallas. There are international airports in both St. Louis and Kansas City, and shuttle services available from both airports to Columbia. The city is also serviced by Greyhound bus line. The nearest Amtrak station to Columbia is located 30 miles south in Jefferson City.

Across the state. As for road trips, there are more than 3,000 acres of state park lands within 10 miles of Columbia. Drive just a few miles outside the city and find farmland, forests, parks and vineyards. Some of the most visited nearby spots include Rock Bridge Memorial State Park (featuring Devil's Icebox Cave, the perfect place to cool down on a hot summer day), Finger Lakes State Park (offering camping and lake swimming) and Les Bourgeois Vineyards in Rocheport overlooking the Missouri River (the best sunset-watching site!).

Those longing to see the big-city lights are in luck. Choose St. Louis to the east or Kansas City to the west. Columbia is about midway between the two. Both metro areas have major sports teams, intriguing cultural attractions, and excellent dining and lodging options. As for Missouri's rural getaways, the choices are plentiful. Less than two hours' drive south of Columbia is the sprawling Lake of the Ozarks. In the southern part of the state, enjoy a float trip on one of several spring-fed rivers. In the Northeast, boat on Mark Twain Lake and visit Hannibal, Mark Twain's childhood home.

To learn more about all there is to see and do in Columbia and Missouri, go to visitcolumbiamo.com or VisitMO.com.
Distinctive Features Set Mizzou Apart

The College of Veterinary Medicine boasts a unique curricular structure that provides nearly two years of hands-on clinical training. Years one and two of the four-year program focus on instruction in high-tech, computer-based classrooms and labs. Years three and four provide clinical instruction in such areas as cardiology, community medicine, dentistry, emergency and critical care, equine medicine, food animal medicine, neurology and neurosurgery, oncology, ophthalmology, orthopedics, reproduction and surgery. The location between two metro areas — St. Louis and Kansas City — and adjacent rural areas offers a strong caseload in companion, equine and food animal species. Preceptorships during the third and fourth years are supported by a database system and staff who ensure that each student is guided toward the opportunities that best match their individual interests.

Veterinarians throughout the Midwest refer animal clients to the Veterinary Health Center’s Equine Hospital, Food Animal Hospital and Small Animal Hospital for specialized diagnoses and treatment. Our Community Practice Section also offers routine preventive medicine, dentistry and other small animal outpatient services. The college’s Shelter Medicine Program increases opportunities for students to develop hands-on clinical skills while helping area humane societies serve their communities.
The Veterinary Health Center’s Veterinary Medical Diagnostic Laboratory is the only diagnostic laboratory in Missouri fully accredited by the American Association of Veterinary Laboratory Diagnosticians. It handles more than 38,000 accessions and performs approximately 90,000 diagnostic tests each year. The facility serves all of Missouri’s 114 counties and surrounding states and supports toxicology, histopathology, serology, bacteriology, molecular biology and virology diagnostic laboratories. It provides the opportunity for veterinary medical students to receive instruction in diagnostic laboratory medicine.

MU is a national leader in comparative medicine, in which researchers collaborate by sharing discoveries, innovations and treatments that benefit both animals and humans. For more than three decades, the National Institutes of Health has continuously funded comparative medicine research at MU. The College of Veterinary Medicine has been, and continues to be, an essential partner in this research. The MU One Health/One Medicine Mizzou Advantage initiative opens opportunities to expand on pioneering work in comparative medicine by connecting research and instruction in health care delivery, policy, business models, medical ethics and the culture of healthy living.

The Veterinary Health Center at Wentzville provides cancer diagnostic services, radiation oncology therapy, clinical trials, behavior therapy and dermatology services in the St. Louis area.

Facilities and Resources

The Veterinary Medical Diagnostic Laboratory provides in-depth diagnostic support to veterinary practitioners, livestock and poultry industry interests, companion animal interests, wildlife conservationists, scientists utilizing animals in their research, state and regulatory officials, and VHC clinicians. It is one of 34 veterinary medical diagnostic laboratory systems in the nation accredited by the American Association of Veterinary Laboratory Diagnosticians.

Middlebush Farm is a 288-acre farm south of Columbia that provides space and facilities for theriogenology instruction and veterinary medical research projects. A college-owned herd of cattle is maintained at this farm for teaching purposes.

Connaway Hall houses the Department of Veterinary Pathobiology and its associated teaching and research programs. The facility provides state-of-the-art research labs specializing in infectious disease research, genetic testing and molecular biology.

The Veterinary Medicine Building features teaching laboratories, classrooms, seminar rooms, computer laboratories, facilities.
administrative offices and the veterinary medical library. This building also houses facilities for electron microscopy, the H. Richard Adams Conference Center and an auditorium used for meetings, research, teaching and other instructional purposes.

The Veterinary Medical Science Building accommodates research laboratories and office space for faculty and graduate students in the Departments of Biomedical Sciences, Veterinary Pathobiology, Veterinary Medicine and Surgery and the Veterinary Medical Diagnostic Laboratory.

The Zalk Veterinary Medical Library provides access to a broad range of information resources, including print and electronic textbooks, literature databases and online journals. The library also provides online research guides and face-to-face instruction on finding and evaluating veterinary literature.

The library collects information on all aspects of veterinary medicine, including pet therapy, human-animal bond, animal welfare, animal law, pet bereavement, comparative medicine and laboratory animals. There are specialized collections in veterinary history, mules and Clydesdales. The veterinary collection is complemented by science, engineering and medical collections found across the University of Missouri Libraries.

Established in 1951, the library is the only one of its kind in the state. Its unique and historical resources frequently fill the needs of researchers not only in Missouri, but across the nation and around the world. In 2005, the library was named the
Zalk Veterinary Medical Library in honor of Thelma Zalk.

The Information Technology Unit (CVM-IT) maintains up-to-date information technology resources supporting the college's teaching, service and research missions. CVM-IT provides critical behind-the-scenes infrastructure management and front-line support for IT applications in biomedical research, veterinary care, education, specialized graphics arts production and collegewide administrative support. The unit provides in-person and phone technical support for many devices and applications used by members of the college.

The college has one of the largest computer facilities on the MU campus. One computer lab has 40 stations available on a 24/7 basis for student use. The other computer lab houses 85 computers for use in teaching histology, microbiology, parasitology and pathology. This facility is primarily used for lectures and labs, but is available for student use outside of normal class time. Both facilities, along with an additional testing room, are used to administer computerized exams. Classrooms are equipped for lecture capture, enabling web-hosted review by students following the instructional session. Two classrooms are equipped with touch-interactive presentation systems. Additionally, devices for wireless real-time interactive assessment and response between instructors and students are available.

Each year, the Veterinary Health Center hospitals care for about 17,000 hospitalized animals and thousands more on farms. Many of these animals come from the Columbia area for primary and emergency care, while others are referred by veterinarians throughout the Midwest for our specialized services. Working alongside faculty and staff, students pursuing the DVM degree and interns and residents engaged in postgraduate training actively participate in each phase of clinical care. MU’s location between two major cities and adjacent rural areas allows for a strong caseload in small animal, equine and food animal species. Featuring 152,000 square feet and advanced equipment, Clydesdale Hall is the central location for clinical care, and houses three specialized hospitals.

The Equine Hospital occupies approximately one-third of the first floor and includes about 32 stalls, a neonatal unit, two large surgery suites, a special diagnostics room, access to a 3-T magnetic resonance imaging (MRI) unit large enough to accommodate horses, an arena and a treadmill for evaluation of equine lameness. An equine field-service program complements in-hospital services.

The Food Animal Hospital also occupies approximately one-third of the first floor and provides comprehensive health care for livestock. The design of the corrals, stalls and chutes permits efficient and safe movement and restraint of cattle. About 35 stalls are available; some are designed to manage paralyzed cattle and recumbent calves. The Food Animal Ambulatory Service provides individual and herd-health services for area livestock through fully equipped vehicles.

The Small Animal Hospital has 16 examination rooms, including specialized rooms for oncology, cardiology and ophthalmology exams, and more than 150 cages and runs. Each exam room contains a computer for quick access to the hospital information system so students can enter and retrieve client and patient data while examining the patient. Veterinarians throughout the region refer clients to the Small Animal Hospital to take advantage of veterinarians with specialized training and state-of-the-art equipment. The hospital also provides preventive medicine, dentistry and routine small animal outpatient care through the Community Practice Section.

The VHC has an emergency and critical care unit staffed 24 hours a day, a 3-T magnetic resonance imaging (MRI) unit, an underwater treadmill for pets recovering from orthopedic and neurological conditions, computerized tomography, a linear accelerator to administer radiation therapy, the Hill's Endoscopy Center, a cardiac catheterization laboratory, and specialized orthopedic and ophthalmology surgical suites. The Veterinary Health Center is one of only a few institutions in the United States that can offer veterinary positron emission tomography (PET) scans.

The Veterinary Health Center – Wentzville is a satellite facility offering radiation oncology therapy to cats and dogs referred there for treatment by their regular veterinarians, behavioral services and dermatology care. The Wentzville facility offers some new clinical trials for cancer treatment for animal patients that qualify.
1884 Veterinary medicine begins at MU
1885 First vaccine-virus laboratory in the United States established at MU
1887 Veterinary laboratory established
1910-11 Connaway Hall built
1946 Professional curriculum developed
1950 First DVM degrees awarded at MU
1961 Teaching hospital built
1965 DVM class size doubles; non-residents admitted
Interdisciplinary Research and Resources on Campus

MU has an extraordinary infrastructure for the sharing of knowledge, facilities and equipment. The College of Veterinary Medicine is actively involved in this collaboration.

The Research Center for Human-Animal Interaction, a collaboration between the College of Veterinary Medicine and the Sinclair School of Nursing, facilitates a number of community programs that engage individuals in activities focusing on the health benefits of human-animal interaction.

At the Bond Life Sciences Center, novel research opportunities arise from interactions among talented and diverse scientists from the School of Medicine and the colleges of Agriculture, Food and Natural Resources, Arts and Science, Engineering, Human Environmental Sciences and Veterinary Medicine.

At the Dalton Cardiovascular Research Center, Mizzou scientists from such fields as biochemistry, biological engineering, electrical engineering, medicine, physiology and veterinary medicine come together and apply their particular expertise to health problems such as hypertension, cancer, cystic fibrosis and heart disease.

The MU Laboratory for Infectious Disease Research is part of our nation's biodefense effort. This $16.5 million facility aids researchers in fighting pathogens such as West Nile virus. It includes laboratories and associated research support areas, and is one of only 13 such structures in the United States.

The Missouri Research Reactor is the most powerful university research nuclear reactor in the nation. College of Veterinary Medicine faculty conduct radiobiological experiments at the facility.

The International Institute for Nano and Molecular Medicine is a campuswide research center dedicated to the discovery and application of fundamental and translational medical science based upon previously unexplored chemistry combined with nanotechnology and the biosciences.

The Low-Level Radiation Laboratory, located within the College of Agriculture, Food and Natural Resources, is a low-level, whole-body radiation counter measuring natural and induced radioactivity in animals and humans.

MU and its researchers have a $2.3 million high-powered nuclear magnetic resonance (NMR) spectrometer, the only one in Missouri. Scientists use the NMR to see molecules in three dimensions and view their interactions. Understanding these interactions is crucial to understanding health and disease.
MU’s National Swine Resource and Research Center is the country’s only repository and distribution center for swine models. MU also houses the only Rat Resource and Research Center (RRRC) and one of four Mutant Mouse Resource and Research Centers (MMRRC) in the United States. The MU Metagenomics Center is closely affiliated with the NIH-funded MU MMRRC and RRRC and is managed and operated by the same team of experts. The center is a comprehensive resource for microbiological research performed at Mizzou, other universities and private entities around the country.

Research Programs and Endowments

The Comparative Internal Medicine Laboratory investigators research diseases relevant to people and animals, develop tools for the practical diagnosis, treatment and prevention of disease, and train the next generation of medical specialists in scientific methodology to facilitate continued application of ethical, translational research.

The University of Missouri Comparative Orthopaedic Laboratory is a global leader in the convergence of human and animal medicine, which turns research discoveries into breakthrough treatments for patients who have injuries or arthritis.

The Comparative Neurology Laboratory is dedicated to finding solutions for animals suffering from diseases of the brain, spinal cord, peripheral nerves and muscles through clinical service, research and education. Research strategy focuses on movement disorders, developmental
disorders, epilepsy, spinal cord disease and dysautonomia.

The Research Center for Human-Animal Interaction focuses on educating and conducting programs and studies about the benefits of human-animal interaction.

The Lyons Feline and Comparative Genetics Laboratory, also known as the Lyons Den, researches the genetics of the domestic cat and the development of genetic tools and resources that assist gene mapping in the cat and other companion animals. Research focuses on mutations that cause inherited diseases and phenotypic traits, breed development and domestic cat evolution. The lab is under the direction of The Gilbreath-McLorn Professor of Comparative Medicine.

The Ruth M. Kraeuchi Endowed Professorship funds the investigation of structural and functional aspects of retinal cell biology, comparative aspects of clinical retinal disease, and intraocular microsurgery.

The E. Paige Laurie Program in Equine Lameness facilitates research related to improving the diagnosis and treatment of lameness in horses. A gift from Bill and Nancy Laurie, owners of Crown Center Farms in Columbia, Missouri, funded the endowment.

The Charles and Charlene McKee Professorship in Microbial Pathogenesis endowed infectious disease research. Research focuses on virulence properties of zoonotic pathogens that cause disease in both people and animals. Projects include characterization of the structure of the spores of the bacterium that causes anthrax, and an examination of genes associated with the severity of infections by staphylococci and the cattle/human pathogen *Fusobacterium necrophorum*.

The late Tom and Betty Scott of Kansas City endowed a program that has made the college a major Midwest referral center for animals with cancer. Cancer diagnosis is aided by the use of magnetic resonance imaging, PET scan, computed tomography and a linear accelerator.

The Thelma Zalk Missouri Professorship in Tumor Angiogenesis integrates the college’s strong vascular biology and cancer programs. Research focuses on identifying steroid hormone dependent molecular targets that can be utilized for anti-angiogenic therapy of endocrine dependent disease such as breast, uterine and prostate cancer.

The Nestle Purina Missouri Program in Small Animal Nutrition supports faculty, clinical nutrition consultation and residency training, and research on problems related to nutrition of dogs and cats.

**Research programs in the MU College of Veterinary Medicine** contribute to the advancement of science and significantly enhance the quality of professional education. Students who participate gain a clearer understanding of disease processes, methods of prevention and treatments for animals and humans. Thanks to their versatile training, members of the veterinary medical profession can work in a variety of research areas, such as infectious and noninfectious diseases of livestock, poultry and companion animals, zoonoses, reproductive biology, comparative anatomy, physiology, pharmacology, pathology, neoplasia, laboratory animal medicine, veterinary public health, environmental health, radiation biology, clinical research and drug evaluation, and nutritional studies. College research projects are supported by federal grants, foundation awards and grants, contracts from industries, livestock producer association funds and funding from other groups.

The college has a successful Veterinary Research Scholars Program that has grown each year since it was established in 2005. The program exposes veterinary students to research career opportunities through a faculty-mentored experience. To participate, students with at least one year in the CVM, or those who have been accepted into the incoming class, must submit an application that includes current veterinary school GPA, resume, statement of interest and one letter of reference. Students also choose four mentors with whom they would like to work. Participants receive a stipend during the full-time research activity portion of the program, which takes place during their summer break.

The college also holds an annual CVM Research Day each spring. Veterinary students, interns, residents and graduate students within the college have the opportunity to present their research in either a poster or lecture format.

Veterinary medicine and human medicine oncologists developed samarium for bone cancer pain, one of many MU discoveries based on collaborative research.
Professional Curriculum Leading To DVM

The DVM degree is achieved after a four-year course of study. At the University of Missouri, the first two years are largely spent in classrooms and laboratories with the second two years devoted primarily to clinical study in the Veterinary Health Center hospitals. The professional curriculum is integrated with college services, including statewide animal disease diagnostic services, extension and continuing education programs for animal owners and veterinarians, patient care referral and consultation services for all species of animals, research programs in animal and human diseases, and advanced specialized training in veterinary and comparative medicine.

The curriculum at the MU College of Veterinary Medicine is designed to provide students with the knowledge and technical skills necessary to be competent entry-level veterinarians. We prepare our students for general veterinary practice, entry into graduate or specialty training programs and careers in regulatory medicine. The first two years of the veterinary curriculum provide students with a solid foundation in basic biomedical science. The courses in the preclinical professional curriculum include anatomy, physiology, cell and molecular biology, pathology, pharmacology, microbiology, virology and toxicology. The fundamentals of the clinical disciplines are also taught during this time and include anesthesiology, clinical pathology, radiology, public health, and medicine and surgery.

The organizational structure of the professional curriculum differs from other schools in that the first two academic years are divided into eight-week instructional periods that run from August through June. Students have summer breaks between the first and second, and second and third years of instruction that are six weeks in duration.

During the third and fourth clinical years of the professional curriculum, students learn to combine the art and science of clinical veterinary medicine and surgery. Two didactic blocks in the VM-3 year provide instruction in clinical subjects not addressed earlier. Practical application of basic principles of medicine and surgery to diagnose, prevent and treat disease in all animals presents a challenge to the students’ mental and physical resources.

Clinical training in the Veterinary Health Center hospitals and the Veterinary Medical Diagnostic Laboratory consists of service rotations that range from two to eight weeks in length. Students must complete the following core rotations: equine medicine and surgery, food animal medicine and surgery, anesthesiology, radiology, neurology and neurosurgery, oncology, ophthalmology, small animal orthopedic surgery, small animal soft tissue surgery, diagnostic pathology, small animal community practice, small animal internal medicine, small animal emergency and critical care, and theriogenology.

In addition, students must select elective rotations for a total of 10 weeks, which are typically completed on campus. Enrollment in clinical elective rotations may be limited by space or faculty availability. Students may repeat required courses as electives, as well as take unique courses, such as shelter medicine, cardiology, small animal clinical nutrition, external food animal service and theriogenology teaching program, public health and regulatory medicine, and research techniques. Four weeks of required preceptorships must be off-campus under the supervision of a licensed veterinarian.

During clinical rotations, students are allotted 12 weeks as free time. Most students utilize their free time to study for licensing examinations, complete preceptorships, or interview with prospective employers.
Schedule and Completion of Required Courses

In the first two years, all students follow the same schedule, and courses must be successfully completed in sequence. Because preclinical courses are offered yearly, academic or hardship issues that prevent a student from completing a course will prolong professional training by one year. In the final two years of the professional program, the student must successfully complete the required and elective clinical rotations to fulfill graduation requirements. To receive the DVM degree, students must pass all courses. In addition to passing examinations, attendance and participation in all lectures, laboratories and clinical exercises is required. The doctor of veterinary medicine degree is awarded after successful completion of the professional program.

Academic Probation

Any student whose cumulative GPA is less than 2.0 will be placed on academic probation. Probation must be removed by the end of the next two successive grading periods. Any student whose term GPA is less than 2.0 will be placed on academic probation. Probation must be removed by the end of the next successive grading period.

Dismissal from the College on Academic Grounds

A student who receives a grade of F in any required or elective course of the professional curriculum will be dismissed. Any student failing to remove probation in the prescribed time will be dismissed. Students on academic probation will not be permitted to graduate. Students who accumulate in excess of 9.0 credit hours of D grades in the professional curriculum will be dismissed.

Academic Scholarship Regulations: cvm.missouri.edu/stuhandbook_sec1.htm

Department of Biomedical Sciences faculty play a large role in the early didactic training of veterinary students. During the first year, students study the gross and microscopic anatomy of food-producing animals, companion animals and selected laboratory animals. They learn normal cell function, tissues, organs and body systems in physiology, and cellular and molecular biology. These studies provide the basis for understanding disease processes and the recognition and treatment of animal diseases. During the second year, students study pharmacology, which includes actions of drugs and factors influencing the responses of animals to drugs. In the study of toxicology, students study disease conditions resulting from poisonous materials including plants, agricultural and industrial chemicals, feed additives and drugs.
### Prefix Codes

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### First Year: Instructional Periods 1-4

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<tr>
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</table>

### Second Year: Instructional Periods 5-9

<table>
<thead>
<tr>
<th>Period 5 (May – June)</th>
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<tbody>
<tr>
<td>V_PBIO 5512</td>
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<td>V_PBIO 5579</td>
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<td>Period 6 (August – October)</td>
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<td>HR</td>
</tr>
<tr>
<td>V_PBIO 5553</td>
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</tr>
<tr>
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<tr>
<td>V_PBIO 5576</td>
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<td>Period 7 (October – December)</td>
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<td>V_BSCI 5507</td>
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<tr>
<td>V_PBIO 5577</td>
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<tr>
<td>V_M_S 6130</td>
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<tr>
<td>Period 8 (January – February)</td>
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<tr>
<td>V_BSCI 5508</td>
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<td>V_PBIO 5578</td>
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</tr>
<tr>
<td>V_PBIO 6010</td>
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<tr>
<td>V_M_S 6020</td>
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</tr>
<tr>
<td>Period 9 (March – April)</td>
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<td>HR</td>
</tr>
<tr>
<td>V_BSCI 5509</td>
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<td>V_M_S 6030</td>
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<td>V_M_S 6040</td>
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</tr>
<tr>
<td>V_M_S 6060</td>
<td></td>
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</table>
### Third Year: Instructional Periods 10-11

<table>
<thead>
<tr>
<th>Instructional Period 10 (May – June)</th>
<th>CR HR</th>
</tr>
</thead>
<tbody>
<tr>
<td>V_M_S 6050 Small Animal Medicine</td>
<td>2.5</td>
</tr>
<tr>
<td>V_M_S 6071 Small Animal Surgery</td>
<td>2</td>
</tr>
<tr>
<td>V_M_S 6073 Fundamental Surgery Laboratory or Optional Surgery and Anesthesia Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>V_M_S 6081 Food Animal Medicine and Surgery</td>
<td>2.5</td>
</tr>
<tr>
<td>V_M_S 6151 Equine Animal Medicine and Surgery</td>
<td>2</td>
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</table>

<table>
<thead>
<tr>
<th>Instructional Period 11 (August – October)</th>
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</tr>
</thead>
<tbody>
<tr>
<td>V_M_S 6152 Equine Medicine and Surgery</td>
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</tr>
<tr>
<td>V_M_S 6110 Theriogenology</td>
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</tr>
<tr>
<td>V_M_S 6120 Veterinary Ophthalmology</td>
<td>1</td>
</tr>
<tr>
<td>V_M_S 6082 Food Animal Medicine and Surgery</td>
<td>2</td>
</tr>
<tr>
<td>V_M_S 6090 Small Animal Critical Care</td>
<td>1</td>
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</table>

**Elective Opportunities (up to 2 credit hours may be taken)**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>V_PBIO 5991 Introduction to Avian Medicine</td>
</tr>
<tr>
<td>V_M_S 6965 Advanced Neurology</td>
</tr>
<tr>
<td>V_M_S 6987 Problem-Based Clinical Preparation</td>
</tr>
<tr>
<td>V_M_S 6988 Small Animal Clinical Nutrition</td>
</tr>
<tr>
<td>V_M_S 6989 Advanced Oncology of Companion Animals</td>
</tr>
<tr>
<td>V_M_S 6990 Zoological Medicine</td>
</tr>
<tr>
<td>V_M_S 6991 Advanced Equine Lameness</td>
</tr>
<tr>
<td>V_M_S 6992 Small Animal Endoscopy</td>
</tr>
<tr>
<td>V_M_S 6993 Advanced Veterinary Anesthesia</td>
</tr>
<tr>
<td>V_M_S 6994 Advanced Techniques in Small Animal Surgery</td>
</tr>
<tr>
<td>V_M_S 6995 Clinical Cardiology</td>
</tr>
<tr>
<td>V_M_S 6996 Advanced Dermatology</td>
</tr>
<tr>
<td>V_M_S 6997 Food Animal Diagnostic Exercises</td>
</tr>
<tr>
<td>V_M_S 6998 Small Animal Behavioral Medicine</td>
</tr>
<tr>
<td>V_M_S 6999 Food Animal Surgery Laboratory</td>
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### Required Clinical Blocks, continued

<table>
<thead>
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<tbody>
<tr>
<td>V_M_S 6432 Small Animal Soft Tissue Surgery I</td>
</tr>
<tr>
<td>V_M_S 6434 Small Animal Orthopedic Surgery</td>
</tr>
<tr>
<td>V_M_S 6436 Neurology and Neurosurgery</td>
</tr>
<tr>
<td>V_M_S 6441 Clinical Radiology I</td>
</tr>
<tr>
<td>V_M_S 6442 Clinical Anesthesiology I</td>
</tr>
<tr>
<td>V_M_S 6450 Theriogenology I</td>
</tr>
<tr>
<td>V_M_S 6460 Clinical Ophthalmology I</td>
</tr>
<tr>
<td>V_M_S 6490 Small Animal Specialty Medicine I (Oncology)</td>
</tr>
<tr>
<td>V_M_S 6820 Small Animal Emergency and Critical Care</td>
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### Clinical Elective Rotations

#### Electives

<table>
<thead>
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<tbody>
<tr>
<td>V_PBIO 6676 Laboratory Animal Medicine &amp; Management II</td>
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<tr>
<td>V_PBIO 6678 Epidemiology and Community Health</td>
</tr>
<tr>
<td>V_PBIO 6679 Diagnostic Pathology &amp; Special Species Medicine II</td>
</tr>
<tr>
<td>V_PBIO 6684 Research Techniques in Veterinary Pathobiology</td>
</tr>
<tr>
<td>V_M_S 6700 Food Animal Medicine and Surgery II</td>
</tr>
<tr>
<td>V_M_S 6710 Small Animal Community Practice</td>
</tr>
<tr>
<td>V_M_S 6711 Small Animal Internal Medicine</td>
</tr>
<tr>
<td>V_M_S 6712 Private Practice Small Animal Internal Medicine</td>
</tr>
<tr>
<td>V_M_S 6713 Shelter Medicine</td>
</tr>
<tr>
<td>V_M_S 6720 Equine Medicine, Surgery, or Ambulatory Practice</td>
</tr>
<tr>
<td>V_M_S 6732 Small Animal Soft Tissue Surgery</td>
</tr>
<tr>
<td>V_M_S 6734 Small Animal Orthopedic Surgery</td>
</tr>
<tr>
<td>V_M_S 6736 Veterinary Neurology and Neurosurgery</td>
</tr>
<tr>
<td>V_M_S 6741 Clinical Radiology II</td>
</tr>
<tr>
<td>V_M_S 6742 Clinical Anesthesiology II</td>
</tr>
<tr>
<td>V_M_S 6743 Radiology — Special Imaging</td>
</tr>
<tr>
<td>V_M_S 6750 Theriogenology II</td>
</tr>
<tr>
<td>V_M_S 6751 External Food Animal Service and Theriogenology Program</td>
</tr>
<tr>
<td>V_M_S 6760 Clinical Nutrition</td>
</tr>
<tr>
<td>V_M_S 6800 Clinical Ophthalmology II</td>
</tr>
<tr>
<td>V_M_S 6810 Cardiology II</td>
</tr>
<tr>
<td>V_M_S 6821 Small Animal Emergency and Critical Care</td>
</tr>
<tr>
<td>V_M_S 6830 Food Animal Production Medicine</td>
</tr>
<tr>
<td>V_M_S 6850 Small Animal Specialty Medicine II (Oncology)</td>
</tr>
<tr>
<td>V_M_S 6920 Equine Techniques</td>
</tr>
</tbody>
</table>
The primary function of the Veterinary Pathobiology department is to teach morphologic and biochemical alterations, which form the basis for changes in tissues and fluids of diseased animals. The teaching is conducted through both didactic and applied courses. Second-year veterinary medical students also study general, systemic and special pathology, veterinary clinical pathology, and laboratory animal medicine. The extensive and varied caseloads in clinical pathology and Veterinary Medical Diagnostic Laboratory programs are used as teaching resources during the third and fourth years of the curriculum.

Courses offered in microbiology provide instruction on special properties of pathogenic microorganisms, the host response to invading microorganisms, and techniques for isolating and identifying microorganisms. Special emphasis is placed on the transmission, prevention and control of infectious and parasitic diseases, veterinary community health, epidemiology and immunology. Lectures, laboratory exercises, demonstrations, special projects, and computer-assisted as well as problem-based programs are offered.

Faculty from the Department of Veterinary Medicine and Surgery provide training in all four years of the professional curriculum. During the first year of basic science instruction, clinicians help to show the relevance and application of basic science principles to clinical medicine and surgery. They also provide the didactic instruction for clinical subjects in the second and third years of the curriculum. Students enter their clinical training early in their third year of professional education. This stage of training allows them to apply principles of medicine and surgery to diagnose, prevent and treat disease in animals. They also practice effective communication with clients and with health care team members as animals are treated at the Veterinary Health Center hospitals.

Clinical rotations involve in-hospital and out-of-hospital training. Through the patient-care method of study, professional students are given considerable responsibility for the total health needs of animals assigned to their care. Discussion periods, formal lectures, rounds and laboratory training guide the students’ progress in clinical medicine and surgery. In addition to the required clinical rotations involving care for a spectrum of domestic species, a number of elective experiences are also part of the clinical curriculum.

Preceptorships
Students are encouraged to use their free time to gain additional experience in veterinary practices or to explore the many other employment opportunities available to veterinarians. Veterinary licensing boards in some states (including Missouri) require applicants for licensure to complete an internship under the supervision of a licensed veterinarian. It is important that students contact the licensing board in the state in which they wish to practice to determine the requirements for licensure in that state. The MU CVM requires a minimum of four weeks spent in evaluated preceptorships for graduation.

State Licensure
In addition to successfully completing a professional veterinary education, most states require state and national licensing examinations to meet requirements to practice. Students interested in veterinary medicine should visit the National Board of Veterinary Medical Examiners website, www.nbvmex.org, and the American Association of Veterinary State Boards website, www.aavsb.org, for further information regarding the requirements for licensure.
Summary Profile of Individuals Accepted Into the Class of 2019

To provide an understanding of the competitive nature of your application, a summary profile of those selected to enter the Class of 2019 is given below. Please remember that students ranged above or below any averages listed.

<table>
<thead>
<tr>
<th>Total Applications</th>
<th>956</th>
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<tbody>
<tr>
<td>Total MO Applications</td>
<td>122</td>
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<tr>
<td>Eligible MO Applications</td>
<td>108</td>
</tr>
<tr>
<td>Non-Resident Applications</td>
<td>834</td>
</tr>
<tr>
<td>Matriculating</td>
<td>120</td>
</tr>
<tr>
<td>Women</td>
<td>98</td>
</tr>
<tr>
<td>Men</td>
<td>22</td>
</tr>
<tr>
<td>Total PreVet. Med. &amp; AgScholars (11 PVM, 2 AgS)</td>
<td>13</td>
</tr>
<tr>
<td>Average GPA</td>
<td>3.70</td>
</tr>
<tr>
<td>Average Last Three Semesters</td>
<td>3.72</td>
</tr>
<tr>
<td>Average Courseload</td>
<td>15</td>
</tr>
<tr>
<td>Average GRE</td>
<td>307</td>
</tr>
<tr>
<td>Average Age</td>
<td>22</td>
</tr>
<tr>
<td>Major in Agriculture</td>
<td>49</td>
</tr>
<tr>
<td>Major in Arts and Sciences</td>
<td>46</td>
</tr>
<tr>
<td>Other majors and undeclared</td>
<td>25</td>
</tr>
<tr>
<td>Students who applied for first time</td>
<td>104</td>
</tr>
<tr>
<td>Students who applied two times</td>
<td>14</td>
</tr>
<tr>
<td>Students who applied more than two times</td>
<td>2</td>
</tr>
</tbody>
</table>

DEGREES

| Bachelor’s degree | 109 |
| Master’s | 3 |
| PhD | 1 |
| Non-degree | 7 |

BACKGROUND

| Urban (10,000-50,000) | 36 |
| Small Town | 52 |
| Farm | 27 |
| Metropolitan | 25 |

UNIVERSITIES LAST ATTENDED

| MU |
| Avila College of the Ozarks |
| Metropolitan Community College |
| Missouri State University |
| Moberly Area Community College |
| Northwest Missouri State University |
| Ozarks Technical Community College |
| Rockhurst University |
| Southeast Missouri State University |
| Truman State University |
| University of Missouri—St. Louis |
| Webster University |
| William Woods University |

Profile of Fully Qualified Missouri Applicants 2014-2015

Admission to the College of Veterinary Medicine is on a competitive basis with limited enrollment. More people are interested in pursuing careers in veterinary medicine than can be provided the opportunity. We hope the information provided below will be helpful in making a decision regarding your future academic and career plans.

Of 108 qualified Missouri applicants:

- 75 percent had a 3.28 GPA or better
- 50 percent had a 3.57 GPA or better
- 25 percent had a 3.75 GPA or better
  - Average GPA of those accepted: 3.65

- 75 percent had a 3.30 GPA or better
- 50 percent had a 3.52 GPA or better
- 25 percent had a 3.76 GPA or better
  - Average GPA for last three semesters of those accepted: 3.65

- 75 percent averaged 14.75 credit hours or more
- 50 percent averaged 15.45 or more
- 25 percent averaged 16.00 or more
  - Average courseload of those accepted: 15.53

- 75 percent scored 12.69 or better
- 50 percent scored 20.66 or better
- 25 percent scored 27.21 or better
  - Average academic score of those accepted: 24.09
Admission to the College

For the most up-to-date information about the college’s admission process, refer to the Admission Guide or the college’s website.

Preparation for applying to the MU College of Veterinary Medicine is best begun while in high school. The selection process for entrance evaluates academic and non-academic criteria. Admissions criteria may change annually.

Academic Preparation
No fixed requirements exist for the recommended high school curriculum. However, a high school student is generally advised to take four years of mathematics, four years of English (grammar and composition), two years of biology, and as much chemistry and physics as possible. Basic computer skills such as keyboarding and word processing will be useful. Speech, debate and drama will also help students master communication skills expected of veterinarians.

Nonacademic Preparation
Involvement in extracurricular activities, such as school clubs, athletics, band, FFA, 4-H, Boy Scouts, Girl Scouts, church activities and any other organized activity requiring the development of teamwork, interpersonal skills and diversity, are encouraged and scored for selection purposes. Applicants are expected to have had experiences with a variety of animals. Some of this experience must be while observing veterinary medicine in practice. High school students considering veterinary medicine as a career are encouraged to seek out such opportunities to see the actual practice of veterinary medicine. Agricultural, biomedical, research and public health experience is also highly regarded.

Requirement for Observation of the Profession
Applicants are required to spend a minimum of 40 hours observing one or more veterinarians actively engaged in their normal work environment. Observation must be as a third person, not as a client. Small or large animal practices and public health, laboratory-animal medicine or research settings are acceptable. The veterinarians observed by the applicant should be among the four invited external reviewers; however, external reviewers may not be related to the applicant by birth or marriage.

Personal Attributes and Experience Desired
The Admissions Committee expects applicants to demonstrate certain abilities and personal traits:

- Experience working with a variety of animal species
- Familiarity with the veterinary medical profession
- Community engagement with demonstrated leadership abilities
- Effective communications
- Time and stress management skills
- Sincere motivation
- Realistic plans for financing their education

Standardized Testing
Applicants must submit scores attained within the past three years from the general GRE. Applicants must obtain a minimum combined score of 285 on the verbal and quantitative portions of the GRE and a minimum of 1.5 on the analytical writing portion.

Preparation in Undergraduate College
The Admissions Committee accepts credit and grades from any accredited United States institution of higher learning. To ensure proper counseling
and support, students are advised to pursue undergraduate studies at an institution with an active pre-veterinary medical club. Students enrolled in the University of Missouri are not given preference when applying for admission to the College of Veterinary Medicine unless they have qualified for and are participants in the Pre-Veterinary Medicine Scholars or AgScholars programs. Additional information about these programs is available in the Admission Guide and online.

**Undergraduate Majors**

Since some students interested in becoming veterinarians are not accepted into veterinary medical programs, students should emphasize a bachelor’s degree program rather than pre-veterinary medical studies. A student should enroll in the school or college offering the degree major selected as a career alternative to veterinary medicine. Most pre-veterinary medical students enroll in animal science, biology or chemistry.

**Type and Sequence of Undergraduate Courses**

Students should be guided by the requirements of their degree majors and our pre-veterinary requirements. Students should consult their advisers about supporting courses and electives that will strengthen their majors.

**Application Requirements**

Applicants must have completed the minimum number of credits required for each of the following subjects:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>English or communication</td>
<td>6</td>
</tr>
<tr>
<td>College algebra or more advanced mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Biochemistry (organic chemistry prerequisite)</td>
<td>3</td>
</tr>
<tr>
<td>Physics (comprehensive introductory course or courses)</td>
<td>5</td>
</tr>
<tr>
<td>Biological science (biology major courses only)</td>
<td>10</td>
</tr>
<tr>
<td>Social sciences or humanities</td>
<td>10</td>
</tr>
<tr>
<td>Electives</td>
<td>23</td>
</tr>
</tbody>
</table>

**Minimum credit hours**

60

*Note:* If there is doubt as to whether a course will fulfill the requirements to apply, the applicant should contact the MU College of Veterinary Medicine admissions adviser as soon as possible. If the course is acceptable, the applicant is advised to include a copy of the response letter when submitting their completed application.

The acceptability of courses to fulfill requirements to apply for admissions is determined by the MU College of Veterinary Medicine Office of Academic Affairs. While not required for admission, it is highly recommended that students take a basic course in anatomy and physiology. All applicants are encouraged to develop at least an elementary working knowledge of a word processing program.

MU is the only Missouri institution that awards the doctor of veterinary medicine degree, graduating approximately 115 new veterinarians each year.
All required courses must be completed by the end of the winter semester or spring quarter of the year the applicant expects to enter the College of Veterinary Medicine, with no more than two left to be completed the spring/winter term of the year the student plans to matriculate. Grades for required courses must be received by July 1.

Students who take prescribed undergraduate courses in the MU College of Agriculture, Food and Natural Resources, Department of Animal Sciences, and are then successful in being selected to a class in the MU College of Veterinary Medicine, will receive elective credits concurrently for up to 32 hours of professional degree courses. This enables qualifying students to receive a bachelor of science with three years of undergraduate work and one year of professional studies; i.e., BS and DVM degrees in seven years. Other schools may grant a bachelor’s degree after the first year of the veterinary curriculum depending on each institution’s policies.

Applicants seeking admission to the University of Missouri College of Veterinary Medicine should be aware that the curriculum includes the use of live animals and cadavers in required courses, such as laboratories in anatomy, physical diagnosis and surgery. In all cases, animals are legally acquired, properly housed, fed, cleaned and cared for to ensure reasonable comfort and well-being. United States Department of Agriculture and National Institutes of Health guidelines on animal care and use constitute the minimum basis for the care provided MU animals. All live animals used in teaching are obtained from sources approved by the U.S. Department of Agriculture, the governing authority for the humane use of animals in research and teaching in the U.S. Procedures performed on these animals must be approved in advance by the MU Animal Care and Use Committee, which comprises faculty from multiple disciplines and includes an at-large member not affiliated with the university. Each procedure is evaluated for evidence of its instructional value, the availability of alternative means of teaching, and the adequacy of pain control. All procedures performed on patients of the Veterinary Health Center are with the consent of the animal’s owner and in compliance with the standard practice of veterinary medicine.
Financial Aid

The primary sources for financing a veterinary medical education are savings, summer earnings, scholarships and federal student loans. Scholarships are processed through the Associate Dean’s Office in the MU CVM. The scholarship process is competitive given the quality of the students being admitted. Scholarships will be awarded based on merit and financial need. The Financial Aid Office will only process student loans.

2015-2016
Cost of Attendance

<table>
<thead>
<tr>
<th>Missouri Residents</th>
<th>VM1</th>
<th>VM2</th>
<th>VM3</th>
<th>VM4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition and fees</td>
<td>$23,756</td>
<td>$23,756</td>
<td>$23,756</td>
<td>$23,756</td>
</tr>
<tr>
<td>Books and supplies</td>
<td>$1,676</td>
<td>$2,476</td>
<td>$3,420</td>
<td>$3,420</td>
</tr>
<tr>
<td>Room and board</td>
<td>$9,908</td>
<td>$9,908</td>
<td>$9,908</td>
<td>$10,224</td>
</tr>
<tr>
<td>Personal expenses</td>
<td>$7,448</td>
<td>$7,448</td>
<td>$7,448</td>
<td>$7,448</td>
</tr>
<tr>
<td>and transportation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total: Missouri resident</td>
<td>$42,788</td>
<td>$43,588</td>
<td>$44,532</td>
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</table>

Non-Missouri Residents Add

<table>
<thead>
<tr>
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<th>VM1</th>
<th>VM2</th>
<th>VM3</th>
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<tr>
<td>Non-resident tuition</td>
<td>$29,072</td>
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<td>$29,072</td>
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<tr>
<td>Total: Non-Missouri resident</td>
<td>$71,860</td>
<td>$72,660</td>
<td>$73,604</td>
<td>$73,920</td>
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</table>

The University of Missouri reserves the right to modify by increase or decrease the fees charged for attendance and other services at the university when the Board of Curators considers it in the best interest of the university to do so. Any increase in fees must be approved by the Board of Curators not less than 30 days prior to the beginning of the academic term (semester, etc.) to which the fees will be applied. Any change in fees will be effective irrespective of whether fees have or have not been paid by or on behalf of a student prior to the effective date of the modification.

2014-2015 Tuition and Fees Comparison with Other Veterinary Programs

<table>
<thead>
<tr>
<th>Schools of Veterinary Medicine</th>
<th>Resident</th>
<th>Non-Resident</th>
<th>Non-Resident x4</th>
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</thead>
<tbody>
<tr>
<td>University of Minnesota</td>
<td>$30,608</td>
<td>$55,074</td>
<td>$220,296</td>
</tr>
<tr>
<td>Michigan State University</td>
<td>$28,134</td>
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<td>Colorado State University</td>
<td>$26,226</td>
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<td>$216,016</td>
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<td>$25,240</td>
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<td>Louisiana State University</td>
<td>$24,017</td>
<td>$51,717</td>
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<tr>
<td>University of Pennsylvania</td>
<td>$40,912</td>
<td>$51,272</td>
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<tr>
<td>Western University</td>
<td>$49,635</td>
<td>$49,635</td>
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<tr>
<td>Virginia-Maryland</td>
<td>$22,448</td>
<td>$48,556</td>
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<tr>
<td>Tufts University</td>
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<td>University of Illinois</td>
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<td>Cornell University</td>
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</tr>
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<td>Purdue University</td>
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<td>*The Ohio State University</td>
<td>$29,161</td>
<td>$64,993</td>
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<tr>
<td>*University of California, Davis</td>
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<td>$43,058</td>
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<tr>
<td>Texas A&amp;M University</td>
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<td>*Washington State University</td>
<td>$22,374</td>
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<td>University of Wisconsin</td>
<td>$19,062</td>
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<tr>
<td>*North Carolina State University</td>
<td>$17,836</td>
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<tr>
<td>Average</td>
<td>$26,600</td>
<td>$46,568</td>
<td>$174,770</td>
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</table>

* Schools that allow change in residency after year 1.

Financial Aid Programs for Veterinary College

Please note: The University of Missouri Board of Curators is currently considering an increase in tuition.

* Unlike most of the institutions listed above, students who attend the University of Missouri have the option of applying for Missouri residency after year one. If residency status is approved, the student will pay nonresident tuition in year one only, followed by the much lower in-state tuition in years two through four. For more information on residency requirements, go to registrar.missouri.edu/residency.
Applying for Financial Aid

Free Application for Federal Student Aid (FAFSA) – The first step in applying for federal financial aid is to fill out the Free Application for Federal Student Aid (FAFSA). The application becomes available Jan. 1 at www.fafsa.ed.gov. The MU school code for the FAFSA is 002516. The initial filing can use estimated information from the previous year. Once taxes are filed, the document can be updated using the IRS Data Retrieval Tool. The tax information will be pulled from the IRS. A username and password is needed to complete the FAFSA online.

Applying for Scholarships

Each year the College of Veterinary Medicine awards a limited number of scholarships to entering and continuing students. Scholarships are based on both merit and financial need. Students admitted for the fall semester will be notified in June if they are the recipient of a scholarship.

Questions regarding scholarships should be addressed to:
Admissions Office
College of Veterinary Medicine
1600 East Rollins Road
Columbia, MO 65211
573-884-3341

The college also maintains several scholarships and awards presented to students each spring during the Honors Banquet. Scholarships are funded by alumni and friends of the college. More information about these scholarships and awards is available by contacting:
Office of the Associate Dean for Student Affairs
College of Veterinary Medicine
W-213 Veterinary Medicine Building
University of Missouri
Columbia, MO 65211

Note: To be considered for scholarships based on financial need, you must complete the FAFSA.

How Funds are Applied

Scholarships and loans are applied directly to the MU student account through the Cashiers Office. The first bill will generate July 20. The spring bill will generate November 20. The bill will reflect all tuition and fees and all financial aid accepted. The aid will pay to the account 10 days prior to the beginning of the semester. If the financial aid exceeds the tuition cost, a refund will generate. Students are strongly encouraged to set up direct deposit through the myZou online system. The refund will direct deposit into their account. If direct deposit is not set up, the refund will be sent to the local address in the system.

Verification

The federal government requires schools distributing financial aid to verify the consistency and accuracy of data submitted on the FAFSA. Some financial aid applicants are asked to submit documents such as tax returns and W-2 forms to MU Student Financial Aid.
e-Consent

Students have access to academic, billing and financial information online. However, to access the information, students must e-consent to receive the information electronically. After furnishing the e-consent, the billing and financial aid information can be accessed online. Students will not receive a paper bill. Once admitted to the CVM, students will have access to myZou. After logging into myZou, there is an option to e-consent.

Loan Programs Overview

There are two loan options, federal student loans and alternative loans. Federal student loans are processed through the Department of Education. Within the federal student loan program, there is an interest-free and an interest-accruing loan. A brief explanation of federal loans follows. A detailed explanation can be found at cvm.missouri.edu/financial_aid_loan_programs.html. The second option is an alternative loan through a private lender. Alternative loans are credit-based. Interest rates are variable. Interest accrues on the loans while students are enrolled.

With Direct Loans, the student follows this process:

1. Borrow directly from the federal government and have a single contact, the loan servicer, for everything related to repayment
2. Have online access to Direct Loan account information via the servicer’s website
3. Choose from several repayment plans that are designed to meet the needs of almost any borrower, and borrowers can switch repayment plans if their needs change

For MU veterinary students there are three types of federal loans available:

1. Federal Direct Unsubsidized Loan Program: The lender is the U.S. Department of Education. The Department of Education can assign the loan to a servicer such as Great Lakes or Navient. The annual loan maximum for veterinary students is $42,722 per academic year. The interest rate is fixed at 5.84 percent. Repayment begins six months after graduation.
2. Direct Grad PLUS Loans for Professional Students: The Grad PLUS loan is credit-based. For a free copy of your credit report visit www.annualcreditreport.com. The interest rate is fixed at 6.84 percent and repayment begins six months after graduation.
3. Federal Health Professions Loan Program: The Health Professions Student Loans (HPSL) is a subsidized loan program available to veterinary students having exceptional financial need. Because funds are limited, students who want to be considered for the HPSL must file the FAFSA by March 1 and must include parental financial information. The loan is interest free while students are enrolled full-time. If students are enrolled in a preceptorship or an open block less than full-time, the loan will go into immediate repayment. Check with the Dean’s Office to enroll in additional hours for the deferment. The interest rate is fixed at 5 percent. The HPSL has a 12-month grace period before repayment begins.

For more information

Financial Aid Information:
Julie Loftin
Student Financial Aid
W-229 Veterinary Medicine Building
Columbia, MO 65211
Phone: 573-882-3981
loftinjb@missouri.edu

Julie Loftin is available at the College of Veterinary Medicine every Monday from 8 a.m. to 5 p.m. and on Wednesdays from 1 to 5 p.m. When not at the college, she can be reached at the main financial aid office:

MU Office of Student Financial Aid
11 Jesse Hall
Columbia, MO 65211
Phone: 573-882-7506
Toll-free in Missouri, Kansas or Illinois 800-225-6075
Student Body

Students in the college are involved in many activities related to veterinary medicine. Many participate in pet-therapy groups, Mule Club, Raptor Rehabilitation Project, diversity organizations and other educational and service groups. Veterinary student volunteers organize an annual dog jog and the college’s Open House. During Open House, more than 2,000 people tour the college and attend educational presentations to learn about the scope and depth of veterinary medicine. Students handle logistics, marketing, media relations, crowd control and coordinating with outside vendors.

Student Responsibility
Honesty is an essential part of professionalism. As set forth in the MU College of Veterinary Medicine Honor Code preamble, students of the college have established a code deserving of the high trust and irreproachable conduct demanded by their chosen profession. The code applies to all students in the MU College of Veterinary Medicine and helps to promote ethical standards of personal and professional conduct.

Reports of violations of this code are carefully investigated by the Student Honor Committee, whose members make every effort to arrive at a just decision. A student found guilty of violating the code may be dismissed from the college. Anyone unwilling to accept the responsibility for maintaining the code should not apply for admission to the MU College of Veterinary Medicine.

The honor committee is composed of two regular and two alternate members from each class. The president of SCAVMA, with approval of the membership, appoints the Student Honor Committee. The committee is led by a fourth-year member. Details of the Student Honor Code and Academic Regulations can be found in the Student Handbook on the college website.

Student Chapter of the American Veterinary Medical Association (SCAVMA)
All veterinary medical students are eligible for membership in the college’s Student Chapter of American Veterinary Medical Association. Several CVM students have held offices at the group’s national level. The chapter sends delegates to the national convention, offers support for members to attend national educational symposiums, and provides numerous benefits for new graduates. Members of the student chapter of the AVMA elect a president,
Based on quality of teaching, research and scholarship, MU is one of only 34 public U.S. universities — and one of only two institutions in Missouri — invited to membership in the prestigious Association of American Universities.
vice president, secretary and treasurer who, along with several members of each class, make up the executive council. The SCAVMA president appoints committees. Membership requirements include paying annual dues and working at the SCAVMA booth during at least one football game while a VM-1 and VM-2.

Benefits of membership include:
- Reduced subscription rate for the *Journal of the AVMA*
- Free registration to national AVMA meetings
- Surgery instrument rental program
- Free AVMA dues for the first year after graduation
- Financial support to attend symposiums and meetings

**Class Officers**

Annually, each class elects a president, vice president, secretary, treasurer and a SCAVMA class representative. Each class president and the AVMA student chapter president serve on the student advisory council, which meets regularly with the dean, associate dean for academic affairs and the associate dean for student affairs to discuss college concerns.

**Student Clubs and Special Interest Organizations**

The college recognizes the varied interests related to the numerous fields seen in veterinary medicine. Extracurricular opportunities provided through clubs and organizations within the college allow students to explore all avenues of interest related to the profession. Clubs and organizations representing special interests in certain animal species, veterinary specialties, business management, community service and research are active in the college.

Many of these clubs are affiliated with national organizations. Some provide outreach through community service and education. Intramural sports teams are also available as an outlet.

**Honor Societies**

There are two honor societies at the MU College of Veterinary Medicine. Phi Zeta is a veterinary honorary society to which third- and fourth-year veterinary medical students may be elected. Phi Zeta was founded in 1925, with the CVM Pi Chapter chartered in 1965. Gamma Sigma Delta, a national organization, recognizes students in agriculture and related sciences who have shown exceptional ability during undergraduate or graduate work.

**Graduate Honor Societies**

The Rollins Society is a graduate-level organization that recognizes leadership, service and scholastic achievement.
Our Alumni

While most veterinarians choose self-employment in community general practices, others select careers in specialty medicine such as cardiology, neurology, oncology or ophthalmology. Some use their skills in state and federal health agencies such as the U.S. Department of Agriculture. Others join the staffs of biological and pharmaceutical companies, or academic institutions.

There are more than 3,700 alumni of the MU College of Veterinary Medicine who have been successful in their chosen areas of the profession. Many have become involved in community affairs by becoming members of school boards, city councils, and mayors of towns and cities. Some have been elected to state legislative bodies. Many have held offices in state and national veterinary medical associations. Still other alumni have had prominent roles in the federal government. Others have advanced to leadership roles in veterinary medical colleges in teaching and research and as administrators. In the past 20 years, four of the presidents of the American Veterinary Medical Association, which represents approximately 88,000 veterinarians, were MU College of Veterinary Medicine graduates. The College of Veterinary Medicine Alumni Organization is centered in the MU College of Veterinary Medicine Dean’s Office. Each autumn, in conjunction with the Alumni Organization, the MU College of Veterinary Medicine hosts an alumni reunion weekend.
We offer dynamic programs in: Cell and Molecular Biology; Comparative Medicine; Equine Medicine, Surgery and Lameness; Food Animal Medicine and Surgery; Imaging; Neurology; Oncology; Orthopedics; Pharmacology; Physiology; Nuclear Medicine; Ophthalmology; Public Health; Small Animal Medicine and Surgery; and Tissue Engineering.

Veterinary Medical Extension and Continuing Education

The mission of Veterinary Medical Extension and Continuing Education is twofold: The first is to enhance the professional competence of veterinarians, thus improving the quality of veterinary medical services and animal care. The second is to acquaint the animal-owning public with the benefits of veterinary medical services. These objectives are accomplished by providing educational programs in conjunction with college faculty and the university community that build partnerships between livestock producers, companion animal owners, veterinarians, allied industry and the University of Missouri.
Online Undergraduate and Graduate Courses in Biomedical Sciences

In addition to the four-year professional curriculum leading to the doctor of veterinary medicine degree, the MU CVM offers a variety of undergraduate and graduate courses online. Undergraduate courses are primarily intended for pre-veterinary applicants and graduate veterinary technicians. Courses serve as electives for other degree programs, can be a component of a general studies degree or health science baccalaureate program, and serve partial requirements in the pre-veterinary medicine program. Graduate courses are intended for graduate veterinarians or veterinary technologists and technicians with a bachelor’s degree and can lead to a master of science degree. All courses are 100 percent online, semester-based, asynchronous, and require proctored examinations.

A dean’s certificate of achievement in biomedical sciences is awarded to any student who takes at least 15 credit hours in undergraduate biomedical courses and achieves a biomedical grade point average of 3.0, or higher, with no less than a C- in any biomedical course on the first attempt.

For More Information

For additional information about online classes offered by the College of Veterinary Medicine go to cvm.missouri.edu/undergrad-classes.htm, email BIOMED@missouri.edu, or contact:

C.B. Chastain, DVM, MS, DACVIM (Small Animal Internal Medicine) Emeritus/Adjunct Professor and Director of Undergraduate Biomedical Science Education
W-231 Veterinary Medicine Bldg.
College of Veterinary Medicine
University of Missouri
Columbia, MO 65211
chastainc@missouri.edu
cvm.missouri.edu/undergrad-classes.htm
Complete undergraduate course descriptions can be found at [biomedonline.missouri.edu/biomed-online-courses/](http://biomedonline.missouri.edu/biomed-online-courses/), and graduate courses are at [biomedonline.missouri.edu/online-biomedical-science-veterinary-graduate-courses/](http://biomedonline.missouri.edu/online-biomedical-science-veterinary-graduate-courses/).

### Undergraduate Courses

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<td>Biomedical Career Explorations</td>
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<tr>
<td>BIOMED 2110</td>
<td>Biomedical Terminology</td>
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<tr>
<td>BIOMED 2111</td>
<td>Veterinary Medical Terminology</td>
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<td>BIOMED 2120</td>
<td>Essentials of Animal Handling and Physical Restraint</td>
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<td>BIOMED 2230</td>
<td>Animal Sanitation and Disease Prevention</td>
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<td>BIOMED 3000</td>
<td>Specialty Careers for Veterinary Technicians</td>
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<td>BIOMED 3100</td>
<td>Biomedical Pathophysiology</td>
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<td>BIOMED 3200</td>
<td>Comparative Hematology</td>
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<td>BIOMED 3219</td>
<td>Elements of Comparative Anatomy</td>
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<td>BIOMED 3300</td>
<td>Animal Welfare and Ethics</td>
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<td>Comparative Pharmacology</td>
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<td>BIOMED 4210</td>
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<td>BIOMED 4300</td>
<td>Clinical Veterinary Neurology</td>
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<td>BIOMED 4320</td>
<td>Fundamentals of Small Animal Emergency and Critical Care</td>
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<td>BIOMED 4333</td>
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<td>BIOMED 4400</td>
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<td>BIOMED 4410</td>
<td>Small Animal Physical Rehabilitation</td>
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<td>BIOMED 4500</td>
<td>Equine Critical Care and Nursing</td>
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<td>BIOMED 4510</td>
<td>Equine Clinical Anatomy: Forelimbs</td>
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<td>BIOMED 4520</td>
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### Graduate Courses

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<td>V_BSCI 7333</td>
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<td>V_M_S 7510</td>
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<td>V_M_S 8023</td>
<td>Internal Medicine Journal Review</td>
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<td>Emergency and Critical Care Journal Review</td>
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<td>V_M_S 8040</td>
<td>Advanced Small Animal Nutrition</td>
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<td>V_M_S 8090</td>
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<td>V_M_S 8405</td>
<td>Comparative Respiratory Pathophysiology</td>
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<tr>
<td>V_M_S 8485</td>
<td>Problems in Veterinary Clinical Science</td>
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</table>
Graduate education and research are integral parts of veterinary medical training. Research programs in the MU College of Veterinary Medicine contribute to the advancement of science and significantly enhance the quality of professional education.

The graduate program in Biomedical Sciences offers training leading to the doctor of philosophy or the master of science degree. The program in biomedical sciences provides in-depth, multidisciplinary training to prepare scientists in comprehensive research at the integrative, organ, cellular and molecular levels. Individuals who successfully complete this program will have diverse backgrounds in state-of-the-art research methodologies and approaches that will make them well-rounded, competitive scientists. Departmental faculty represent a diversity of medical and related basic science disciplines. They provide a rich environment for graduate study and a unique opportunity for training scientists in comprehensive interdisciplinary research. Current faculty interests include cardiovascular, respiratory, exercise and health membrane transport, neurohumoral regulation, neuroscience, cancer and reproductive endocrinology. Departmental faculty maintain research laboratories in the College of Veterinary Medicine, Bond Life Sciences Center and the Dalton Cardiovascular Research Center. State-of-the-art techniques and equipment are used for analysis of biomedical questions.
The course curriculum centers on the strategy of developing a multidisciplinary understanding of biomedical research. Core courses include physiology, cell biology, neuroscience and multidisciplinary approaches to biomedical research.

The Department of Veterinary Medicine and Surgery offers graduate training leading to the master of science degree through the Veterinary Medicine and Surgery Emphasis Area in the Biomedical Sciences Degree Program. The department's graduate faculty includes more than 30 members with dynamic and diverse research programs. Research areas include comparative orthopedics, internal medicine, neurology, nutrition, oncology, food animal, equine, and small animal medicine and surgery, physiology, pharmacology, cell and molecular biology, imaging and nuclear medicine, ophthalmology, and tissue engineering, among others. The majority of master's degree candidates in the department are also graduate veterinarians simultaneously completing residency programs in the Veterinary Health Center hospitals with the goal of board certification in a clinical specialty. Department research projects are supported by federal grants, foundation awards and grants, corporate grants and contracts, and intramural funds.

The Department of Veterinary Pathobiology offers a graduate program leading to the master of science degree. For admission, the candidate should have completed the DVM or an acceptable baccalaureate degree. The PhD program in the area of pathobiology is presented by faculty in the School of Medicine and Veterinary Pathobiology in the MU College of Veterinary Medicine. PhD candidates may choose their research areas to take advantage of the interests and specialties of advisers in the departments. Research is conducted in areas such as comparative medicine, vector-borne and zoonotic diseases, host responses to bacterial, viral, and parasitic pathogens, the ecology of host-microbial interactions, morphologic alterations in response to disease, ultrastructural and histochemical changes, clinical chemistry, molecular microbiology and pathology.

Comparative Veterinary Medicine Emphasis Area
The Comparative Medicine Program (cmp.missouri.edu/) is a postdoctoral (post-DVM) program that prepares graduates for careers in comparative medicine research and laboratory-animal medicine. The CMP emphasizes comparative medicine research training that can be coupled with a laboratory-animal medicine residency that meets the training requirements for eligibility for the American College of Laboratory Animal Medicine certification examination. If a concurrent residency is pursued, trainees spend...
their first year performing rotations in veterinary care of research animals, regulatory laboratory animal medicine, investigator support, preventive medicine and diagnostic and research pathology. The remaining time in the program is primarily devoted to research training under an established investigator. Trainees may select from more than 50 laboratories across the MU campus. These labs encompass multiple disciplines including immunology, infectious disease, biodefense, cancer, exercise and cardiovascular physiology, genetics, translational medicine, reproductive biology and many more. The master of science degree in the Comparative Medicine Emphasis Area requires the completion of a significant manuscript suitable for publication in a refereed journal or an approved equivalent scholarly effort. Trainees desiring to obtain a PhD have opportunities to do so in a variety of programs such as the Pathobiology Area Program.

Master of Public Health, Veterinary Public Health

The master of public health degree (MPH) is the standard professional degree recognized throughout the world for public health practice. Governed by an executive council of faculty from diverse schools and programs including Arts and Science, Nursing, Veterinary Medicine, Social Work, Health Professions, Medicine and Public Affairs, the MPH Program at MU reflects the future of interdisciplinary research and service. Dual degrees with veterinary medicine, journalism and public affairs offer students exceptional opportunities for training in zoonotic disease prevention, risk and strategic communications and policy making. Diverse faculty research projects and supervised internships both at home and abroad provide entry to one of the fastest growing and most rewarding careers in public and community service. The MPH Program is accredited by the Council on Education for Public Health (CEPH). Students in this veterinary emphasis area receive training in zoonotic disease prevention, food safety and other emerging issues in animal and human health.

Combined DVM/Graduate Degree (Dual) Programs and Leave of Absence

Veterinary medical students with a baccalaureate degree and who otherwise qualify for graduate school may take graduate courses during the DVM Program when permitted by the DVM schedule and DVM degree requirements. Departments and graduate committees establish specific requirements to achieve graduate degrees. Interested students should contact the associate dean for Academic Affairs or the associate dean for Research and Graduate Studies for further information.

To facilitate progression toward graduate degrees in combined DVM graduate degree programs, an academic leave of absence for one year to take graduate courses may be requested. The time of absence will typically occur from the end of instructional period seven to the next academic year’s instructional period eight.
Permission is required from the student’s graduate program committee and from the Committee on Admissions and Scholarship. Requests for deferment must be received at least six weeks prior to the beginning of instructional period seven.

The MU Office of Research and Graduate Studies requires that the Graduate Record Examination (GRE) be taken prior to application. Minimum GRE scores for verbal, quantitative and analytical writing sections are established by the faculty of the area. MU Graduate School acceptance is required of all applicants. The application must include a complete curriculum vitae, a statement of professional and academic goals, three letters of reference and copies of all university transcripts. The director of graduate studies of each area will evaluate the adequacy of academic records and act on admission. Prior to acceptance, each applicant must have a major adviser who is a member of the emphasis area.

For more information on admission and degree requirements, contact the Office of Graduate Studies:
210 Jesse Hall, Columbia, MO 65211
573-882-6311
Toll-Free: 800-877-6312
Fax number: 573-884-5454

The licensing examination for veterinarians is the North American Veterinary Licensing Examination Council on Education. A minimum pass rate of 80 percent is required to maintain full accreditation. The pass rate of University of Missouri College of Veterinary Medicine graduates has been 100 percent in recent years!
Departments and Courses

Complete course descriptions and information about prerequisites and other requirements can be found online at: vetmed.missouri.edu/courses.htm

### Course Offerings

Note: 5000-6000 level courses are restricted to veterinary medical students. Graduate standing required for all 8000 level courses.

#### Biomedical Sciences

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Instructional Periods</th>
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<tr>
<td>V_BSCI 5011</td>
<td>Veterinary Anatomy I</td>
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<td>Veterinary Anatomy II</td>
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<td>Veterinary Endocrinology and Reproductive Biology</td>
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<td>1 and 2</td>
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<td>Veterinary Microscopic Anatomy</td>
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<td>1 and 2</td>
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<td>V_BSCI 5506</td>
<td>Veterinary Cell Biology</td>
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<td>1 and 2</td>
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<td>Veterinary Pharmacology</td>
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<td>Veterinary Toxicology</td>
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<td>Problems in Veterinary Biomedical Science</td>
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<td>V_BSCI 7302</td>
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<tr>
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<td>Cytology, Histology, and Organology of Domestic Animals II</td>
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<td>V_BSCI 7307</td>
<td>Embryology and Development of Domestic Animals</td>
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<td>V_BSCI 7333</td>
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<td>V_BSCI 8409</td>
<td>Advanced Microscopic Anatomy (cr. arr.)</td>
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Veterinary Pathobiology

V_BSCI 8410 Seminar (1). Graduate course.
V_BSCI 8420 Veterinary Physiology (5). Graduate course.
V_BSCI 8421 Veterinary Physiology (4). Graduate course. Continuation of V_BSCI 8420.
V_BSCI 8450 Research (cr. arr.). Graduate course.
V_BSCI 8509 Veterinary Toxicology (3). Graduate course. Same as V_BSCI 5509.
V_BSCI 9090 Research in Vet Bio Sci (cr. arr.). Graduate course.
V_BSCI 9431 Control Energy Metabolism (1-3). Graduate course. Same as MPP 9431.
V_BSCI 9435 Skeletal Muscle and Molecular Exercise Physiology (3). Graduate course. Same as MPP 9435.
V_BSCI 9467 Neural Control Circulation (3). Graduate course. Same as MPP 9437.

V_PBIO 2085 Problems (cr. arr.). Undergraduate course.
V_PBIO 2210 Microbiology for Health Sciences, Undergraduate course.
V_PBIO 3085 Problems (cr. arr.). Undergraduate course.
V_PBIO 3250 Parasitology (4). Undergraduate course.
V_PBIO 3335 Techniques in Pathology (cr. arr.). Undergraduate course.
V_PBIO 3345 Veterinary and Human Parasitology (4). Undergraduate course.
V_PBIO 3347 Clinical Epidemiology and Environmental Health (1-10). Undergraduate course.
V_PBIO 5511 Veterinary Immunology (1.5). (Same as V_PBIO 8437). Instructional period 4.
V_PBIO 5512 Veterinary Immunology (1.5). (Same as V_PBIO 8451). Instructional period 5. Continuation of V_PBIO 5511.
V_PBIO 5552 Veterinary Bacteriology I (3). Instructional Period 5.
V_PBIO 5553 Veterinary Bacteriology II (2.5). Continuation of 5552. Instructional period 6.
V_PBIO 5554 Veterinary Virology (2). (Same as V_PBIO8454). Instructional period 6.
V_PBIO 5555 Epidemiology and Biostatistics (2). (Same as V_PBIO8455) Instructional period 4.
V_PBIO 5557 Veterinary Parasitology (3). (Same as V_PBIO 8457). Instructional period 6.
V_PBIO 5558 Veterinary Public Health (2). (Same as V_PBIO 8458). Instructional period 7.
V_PBIO 5575 General Veterinary Pathobiology (3). Instructional period 5.
V_PBIO 5576 Veterinary Systemic and Special Pathology I (3). Instructional period 6.
V_PBIO 5577 Veterinary Systemic and Special Pathology II (3). Instructional period 7. Continuation of V_PBIO 5576.
V_PBIO 5578 Veterinary Clinical Pathology (3). Instructional period 8.
V_PBIO 5579 Veterinary Genomics (1). Instructional period 5.
V_PBIO 5601 Animal in Emergencies & Basic Emergency Response for Vet Students (1). Instructional period 7. (Same as V_PBIO 8601)
V_PBIO 5991 Introduction to Avian Medicine (1). Instructional period 1 elective.
V_PBIO 6010 Laboratory Animal Medicine (1.5). Instructional period 8.
V_PBIO 6647 Diagnostic Pathology and Special Species Medicine I (8). Required clinical rotation.

V_PBIO 6676 Laboratory Animal Medicine and Management (2-6). Elective clinical rotation.
V_PBIO 6678 Epidemiology and Community Health (2-6). Elective clinical rotation.
V_PBIO 6679 Diagnostic Pathology and Special Species Medicine II, Elective clinical rotation. Continuation of V_PBIO 6647 with more depth. Available to veterinarians as a continuing education program.
V_PBIO 6681 Research Techniques in Veterinary Pathobiology (1-6). Elective clinical rotation.
V_PBIO 8090 Thesis Research in Veterinary Pathobiology (0-99). Graduate course.
V_PBIO 8401 Topics in Pathobiology (1-3). Graduate course.
V_PBIO 8410 Seminar in Veterinary Pathobiology (1). Graduate course.
V_PBIO 8411 Seminar in Histopathology (1). Graduate course.
V_PBIO 8421 Advanced Epidemiology (3). Graduate course. Same as F_C_MD 8421
V_PBIO 8430 Comparative Pathology (3). Graduate course.
V_PBIO 8431 Research Methods and Data Analysis (2-4). Graduate course.
V_PBIO 8432 Advanced Histopathology (5). Graduate course.
V_PBIO 8433 Veterinary Oncology (2). Graduate course.
V_PBIO 8434 Advanced Clinical Pathology (3). Graduate course.
V_PBIO 8435 Advanced Microscopy in Veterinary Clinical Pathology (1). Graduate course.
V_PBIO 8436 Pathogenic Mechanisms in Veterinary Pathobiology (3). Graduate course.
V_PBIO 8437 Pathology of Laboratory Animals (4). Graduate course.
V_PBIO 8438 Primatology (3). Graduate course.
V_PBIO 8441 Topics in Veterinary Pathobiology (1-3). Graduate course.
V_PBIO 8442 Advanced Veterinary Pathogenic Bacteriology (3). Graduate course.
V_PBIO 8443 Viral Infection and Immunity (3). Graduate course.
V_PBIO 8444 Advanced Veterinary Parasitology (3). Graduate course.
V_PBIO 8445 Advanced Immunology and Immunopathology (3). Graduate course.
V_PBIO 8447 Oncogenic Animal Viruses (3). Graduate course.
V_PBIO 8448 Molecular Methods in Nucleic Acids (3). Graduate course.
V_PBIO 8450 Non-Thesis Research (cr.arr.). Graduate course.
V_PBIO 8451 Introduction to Immunology (3). Graduate course. Same as V_PBIO 5511 and 5512.
V_PBIO 8452 Cell and Molecular Electron Microscopy (4). Graduate course.
V_PBIO 8454 Domestic Animal Virology (2). Graduate course. Same as V_PBIO 5554.
V_PBIO 8455 Epidemiology and Biostatistics (2). Graduate course. Same as V_PBIO 5555.
V_PBIO 8457 Animal Parasitology (3-5). Graduate course. Same as V_PBIO 5557.
V_PBIO 8458 Veterinary Public Health (2). Graduate course. Same as V_PBIO 5558.
V_PBIO 8468 Laboratory Animal Biology (4). Graduate course.
V_PBIO 8552 Veterinary Pathogenic Bacteriology and Mycology I (3). Graduate course.
V_PBIO 8553 Veterinary Pathogenic Bacteriology and Mycology II (2.5). Graduate course.
V_PBIO 8601 Animals in Emergencies & Basic Emergency Response (1). Graduate course.
V_PBIO 8641 Introduction to Research Ethics (1). Graduate course.
V_PBIO 9090 Area Veterinary Pathobiology Dissertation Research (cr.arr.). Graduate course.
Veterinary Medicine and Surgery

V_M_S 6100 Biomedical Career Explorations (1). Undergraduate course. Fall semester.
V_M_S 6201 Biomedical and Veterinary Medical Terminology (2-3). Undergraduate course. Winter semester.
V_M_S 6201 Animal Handling and Restraint (2). Undergraduate course. Fall semester.
V_M_S 6240 Companion Animals (3). Undergraduate course. Same as Animal Science 2140.
V_M_S 6230 Animal Sanitation and Disease Prevention (3). Undergraduate course. Fall only.
V_M_S 6235 Domestic Animal Behavior (3). Winter semester.
V_M_S 6329 Elements of Veterinary Anatomy (4). Undergraduate course.
V_M_S 6300 Animal Welfare and Ethics (1). Undergraduate course.
V_M_S 6310 Equine Health Topics (3). Undergraduate course. Fall semester.
V_M_S 6401 Topics in Veterinary Medicine (cr. arr.).
V_M_S 6405 Clinical Skills (0.5). Instructional period 3.
V_M_S 6406 Clinical Skills (0.5): Instructional period 4. Continuation of V_M_S 6605.
V_M_S 6605 Evaluated Veterinary Preceptorship (cr. arr.)
V_M_S 6610 Veterinary Radiology with Laboratory (2). Instructional period 8.
V_M_S 6630 Veterinary Anesthesiology with Laboratory (2). Instructional period 9.
V_M_S 6650 Small Animal Medicine (2.5). Instructional period 10.
V_M_S 6660 Small Animal Surgery with Laboratory (2). Instructional period 9.
V_M_S 6672 Conventional Surgery and Anesthesia Laboratory (1). Instructional period 10. Prerequisite: VM3 standing.
V_M_S 6673 Fundamental Surgery and Anesthesia Laboratory (1). Instructional period 10. This laboratory is offered as a substitute to V_M_S 6672 for students with objections to participating in terminal procedure laboratories. Prerequisite: VM3 standing.
V_M_S 6690 Small Animal Critical Care with Laboratory (1). Instructional period 11.
V_M_S 6610 Theriogenology (3). Instructional period 11. Prerequisite: VM3 standing.
V_M_S 6620 Veterinary Ophthalmology (1). Instructional period 11.
V_M_S 6630 Fundamentals of Veterinary Business Management (1). Instructional period 7.
V_M_S 6640 Veterinary Nutrition (1.5). Instructional period 3.
V_M_S 6641 Small Animal Internal Medicine (2). Required clinical rotation.
V_M_S 6642 Small Animal Community Practice (6). Required clinical rotation.
V_M_S 6434 Small Animal Orthopedic Surgery (2). Required clinical rotation.
V_M_S 6436 Veterinary Neurology/Neurosurgery (2). Required clinical rotation.
V_M_S 6441 Clinical Radiology (3). Required clinical rotation.
V_M_S 6442 Clinical Anesthesiology I (3). Required clinical rotation.
V_M_S 6450 Theriogenology I (2). Required clinical rotation.
V_M_S 6460 Clinical Ophthalmology I (2). Required clinical rotation. Prerequisite: VM3 or VM4 standing.
V_M_S 6490 Small Animal Specialty Medicine I (2). Required clinical rotation.
V_M_S 6670 Small Animal Community Practice II (2-6). Elective clinical rotation.
V_M_S 6671 Small Animal Internal Medicine elective (2). Elective clinical rotation. Internal medicine will be a continuation of the internal medicine section V_M_S 6411 and may be repeated.
V_M_S 6672 Private Practice Small Animal Internal Medicine (2). Elective clinical rotation.
V_M_S 6673 Shelter Medicine (2-6). Elective clinical rotation.
V_M_S 6675 Small Animal Soft Tissue Surgery II (2). Elective clinical rotation. Two alternative options exist for V_M_S 6675: (1) Students may take this elective off campus under the supervision of a board-certified surgeon in private practice. Course leader consent is necessary for this option to make sure proper arrangements have been made with the sponsoring board-certified surgeon. (2) V_M_S 6675 may be used for a non-clinical elective in Small Animal Soft Tissue Surgery. Such an elective experience requires advanced planning with a specific faculty member of the Soft Tissue Surgery Service. This option requires course leader consent.
V_M_S 6674 Small Animal Orthopedic Surgery II (2). Elective clinical rotation.
V_M_S 6676 Veterinary Neurology/Neurosurgery II (2). Elective clinical rotation.
V_M_S 6677 Clinical Radiology II (cr. arr.). Elective clinical rotation. Elective A: Clinical Elective in Diagnostic Radiology Elective B: Clinical Elective in Special Diagnostic Imaging: (Ultrasound, CT, Nuclear Medicine, MRI) Elective C: Clinical Elective in Radiation Therapy
V_M_S 6678 Clinical Anesthesiology II (2-6). Elective clinical rotation.
V_M_S 6679 Radiology-Special Imaging (2-3). Elective clinical rotation.
V_M_S 6680 Theriogenology II (2-6). Elective clinical rotation. Continuation of the prerequisite V_M_S 6450.
V_M_S 6680 Clinical Ophthalmology II Elective (2). Elective clinical rotation.
V_M_S 6681 Cardiology II Elective (2-4). Elective clinical rotation.
V_M_S 6682 Small Animal Emergency and Critical Care (2). Required clinical rotation.
**DEPARTMENTS AND COURSES**

**V_M_S 6830**  
Food Animal Production Medicine (2-6). Elective clinical rotation.

**V_M_S 6850**  
Clinical Oncology (2-6). Elective clinical rotation.

**V_M_S 6920**  
Equine Techniques (2). Elective clinical rotation.

**V_M_S 6986**  
Advanced Neurology (1). Instructional period 11 elective.

**V_M_S 6987**  
Problem-Based Learning Clinic Preparation (1). Instructional period 11 elective.

**V_M_S 6988**  

**V_M_S 6989**  
Advanced Oncology of Companion Animals (1). Instructional period 11 elective. Expanded discussion of veterinary oncology topics not covered in the oncology section V_M_S 6050.

**V_M_S 6990**  
Zoological Medicine (2). Instructional period 11 elective.

**V_M_S 6991**  
Advanced Equine Lameness with Lab (1). Instructional period 11 elective.

**V_M_S 6994**  
Advanced Techniques in Small Animal Surgery with Lab (1). Instructional period 11 elective.

**V_M_S 6995**  
Clinical Cardiology (1). Instructional period 11 elective.

**V_M_S 6996**  
Advanced Dermatology (1). Instructional period 11 elective.

**V_M_S 6997**  
Food Animal Diagnostic Exercise (1). Instructional period 11 elective.

**V_M_S 6999**  
Food Animal Surgery Laboratory (1). Instructional period 11 elective.

**V_M_S 7301**  
Topics (cr. arr.). Graduate course.

**V_M_S 7303**  
Advanced Topics in Veterinary Anesthesia (1). Graduate course. Same as V_M_S 6991.

**V_M_S 7328**  
Introductory Radiation Biology (3). Graduate course. Same as BIOL_EN 7328, RADIOL 7328, BIO_SC 7328.

**V_M_S 7351**  
Advanced Surgical Techniques (cr. arr.). Graduate course.

**V_M_S 7354**  
Advanced Techniques in Radiology (cr. arr.). Graduate course.

**V_M_S 7370**  
Orthopaedic Biomechanics (3). Graduate course. Same as BIOL_EN 7370.

**V_M_S 7385**  
Problems in Veterinary Medicine and Surgery (cr. arr.). Graduate course.

**V_M_S 8021**  
Neurology Journal Review (1). Graduate course.

**V_M_S 8022**  
Internal Medicine Clinico-pathologic Conference (1). Graduate course.

**V_M_S 8023**  
Internal Medicine Journal Review (1). Graduate course.

**V_M_S 8024**  
Medicine-Surgery-Pathology Conference (1). Graduate course.

**V_M_S 8025**  
Equine Medicine Journal Review (1). Graduate course.

**V_M_S 8026**  
Surgery Journal Review (1). Graduate course.

**V_M_S 8027**  

**V_M_S 8028**  
Cardiovascular Medicine Journal Review (1). Graduate course.

**V_M_S 8029**  
Emergency and Critical Care Journal Review (1). Graduate course.

**V_M_S 8030**  
Seminars in Veterinary Medicine and Surgery-Opthalmology Pathology Seminar (1). Graduate course.

**V_M_S 8031**  

**V_M_S 8032**  
Seminars in Veterinary Anesthesiology (1). Graduate course.

**V_M_S 8033**  
Seminars in Clinical Sciences-Equine Surgery Journal Review (1).

**V_M_S 8034**  
Seminars in Veterinary Radiology (1). Graduate course.

**V_M_S 8035**  
Current Topics in Veterinary Clinical Nutrition (1). Graduate course. Can be repeated for a total of six credit hours.

**V_M_S 8036**  
Advanced Physiology of the Dog and Cat (2). Graduate course.

**V_M_S 8040**  
Advanced Small Animal Clinical Nutrition (2). Graduate course. May be repeated for credit.

**V_M_S 8090**  
Research in Veterinary Medicine and Surgery (Thesis) (cr. arr.). Graduate course.

**V_M_S 8400**  
Clinical Veterinary Regulatory Medicine and Public Health (2). Graduate course.

**V_M_S 8401**  
Topics in Veterinary Clinical Sciences (1-3). Graduate course.

**V_M_S 8402**  
Seminars in Veterinary Clinical Sciences (1). Graduate course.

**V_M_S 8406**  
Topics in Veterinary Medicine and Surgery (cr. arr.). Graduate course

**V_M_S 8405**  
Comparative Respiratory Pathophysiology (1). Graduate course.

**V_M_S 8410**  
Veterinary Medicine and Surgery Research Seminar (1). Graduate course.

**V_M_S 8411**  
Clinical Veterinary Endocrinology (2). Graduate course.

**V_M_S 8413**  
Equine Internal Medicine (2). Graduate course.

**V_M_S 8415**  
Advanced Veterinary Neurology (2). Graduate course.

**V_M_S 8416**  
Advanced Veterinary Internal Medicine-Cardiocvascular Medicine (3). Graduate course.

**V_M_S 8417**  
Advanced Veterinary Internal Medicine-Clinical Oncology (2). Graduate course.

**V_M_S 8418**  
Advanced Veterinary Internal Medicine-Food Animal Medicine (2).

**V_M_S 8419**  
Advanced Topics in Cancer Biology and Clinical Oncology (2). Graduate course.

**V_M_S 8421**  
Advanced Veterinary Surgery-Small Animal Surgery (2-4). Graduate course.

**V_M_S 8423**  
Comparative Arthrology (3). Graduate course.

**V_M_S 8425**  
Advanced Veterinary Surgery-Equine Surgery (2-4). Graduate course. Taught yearly as sections A, B, C. Repeatable to a maximum of 10 credit hours (individual sections may be taken once).

**V_M_S 8426**  
Advanced Veterinary Surgery-Ophthalmic Surgery (2-4). Graduate course.

**V_M_S 8431**  
Research Methods and Data Analysis (2-4). Graduate course. Same as V_PBIO 8431.

**V_M_S 8435**  
Veterinary Clinical Sciences-Clinical Immunology (2). Graduate course.

**V_M_S 8436**  
Veterinary Clinical Sciences-Clinical Pharmacology (1). Graduate course.

**V_M_S 8437**  
Advanced Topics in Veterinary Medicine (Nuclear Medicine) (1). Graduate course.

**V_M_S 8439**  
Advanced Veterinary Ultrasonography (2-3). Graduate course.

**V_M_S 8440**  
Advanced Veterinary Clinical Sciences-Advanced Clinical Ophthalmology (1-3). Graduate course.

**V_M_S 8445**  
Veterinary Critical Care and Emergency Medicine (2-5). Graduate course.

**V_M_S 8450**  
Research in Veterinary Medicine and Surgery (non-thesis) (cr. arr.). Graduate course.

**V_M_S 8485**  
Problems in Veterinary Clinical Sciences (1-3). Graduate course.

**V_M_S 8487**  
Nuclear Medicine (3). Graduate course.

**V_M_S 8488**  
Radiation Therapy (3). Graduate course.

**V_M_S 8489**  
Veterinary Radiographic Physics (1). Graduate course.
Faculty

BIOMEDICAL SCIENCES

Department Administration

Neil C. Olson, DVM, PhD, College of Veterinary Medicine dean
Douglas K. Bowles, PhD, department chair, professor; research investigator, Dalton Cardiovascular Research Center

Faculty

Chris Baines, PhD, associate professor; research investigator, Dalton Cardiovascular Research Center
Shawn Bender, PhD, assistant professor
Frank Booth, PhD, professor; research investigator, Dalton Cardiovascular Research Center; professor, Department of Medical Pharmacology and Physiology, School of Medicine, professor, Nutrition and Exercise Physiology
Lane L. Clarke, DVM, PhD, professor; research investigator, Dalton Cardiovascular Research Center
Ileana A. Constantinescu, DVM, MS, associate clinical professor
David Cross, DVM, PhD, associate teaching professor
Kevin J. Cummings, PhD, assistant professor
John R. Dodam, DVM, MS, PhD, Diplomate – ACVAA, professor
Craig Emter, PhD, assistant professor
Brian L. Frappier, DVM, PhD, associate clinical professor
Eileen M. Hasser, PhD, professor; research investigator, Dalton Cardiovascular Research Center
Cheryl M. Heesch, PhD, professor; research investigator, Dalton Cardiovascular Research Center
Salman M. Hyder, PhD, professor; research investigator, Dalton Cardiovascular Research Center
David Kline, PhD, associate professor, director of graduate studies
Cathleen Kovarik, DVM, PhD, associate teaching professor
Nicole Nichols, PhD, assistant professor
Cheryl Rosenfeld, DVM, PhD, associate professor
Leona J. Rubin, PhD, professor; research investigator, Dalton Cardiovascular Research Center; associate vice chancellor for graduate studies; associate vice president for academic affairs and graduate education for the UM System
Richard W. Tsika, PhD, professor; research investigator, Dalton Cardiovascular Research Center; associate professor, Department of Biochemistry
Colette Wagner-Mann, DVM, PhD, associate teaching professor
Wade V. Welshons, PhD, associate professor
Steve HT Yang, PhD, research professor
Michael Zhang, PhD, clinical associate professor

Adjunct Faculty

C. Trenton Boyd, BS, MA, librarian, adjunct assistant professor
Virginia H. Huxley, PhD, adjunct professor; professor, Department of Medical Pharmacology and Physiology, School of Medicine
Gary Johnson, DVM, PhD, associate professor
Teresa Lever, PhD, CCC-SLP, assistant professor
Gerald Meininger, PhD, professor, Dalton Cardiovascular Research Center; professor, Department of Medical Pharmacology and Physiology, School of Medicine
George E. Rottinghaus, PhD, adjunct associate professor; associate professor, Veterinary Medical Diagnostic Laboratory
Steven Segal, PhD, professor, Department of Medical Pharmacology and Physiology, School of Medicine

Emeriti Faculty

Esther M. Brown, PhD, professor emeritus
Olen Brown, PhD, professor emeritus
Roger E. Brown, PhD, professor emeritus
Gheorghe M. Constantinescu, DVM, PhD, Dr.h.c., professor emeritus
Homer E. Dale, DVM, PhD, professor emeritus
M. Harold Laughlin, PhD, Curators Professor Emeritus
Robert McClure, DVM, PhD, professor emeritus
Chada S. Reddy, BVSc, PhD, professor emeritus
Ronald L. Terjung, PhD, professor emeritus
James R. Turk, DVM, PhD, professor emeritus

VETERINARY PATHOLOGY

Department Administration
George Stewart, PhD, department chair, McKee Endowed Professor

Faculty
Jeffrey Adamovicz, PhD, associate professor; director, MU Laboratory for Infectious Disease Research
Cansu Agca, PhD, research scientist
Yuksel Agca, DVM, PhD, associate professor
James Amos-Landgraf, PhD, assistant professor
Deborah Anderson, PhD, associate professor
Paul Anderson, PhD, assistant research professor
Brenda T. Beerntsen, PhD, professor
Linda Berent, DVM, PhD, associate clinical professor, associate dean for Academic Affairs
Charles Brown, PhD, professor
Elizabeth Bryda, PhD, professor
Michael Calcutt, PhD, associate professor
Timothy J. Evans, DVM, PhD, associate professor
Alexander Franz, PhD, assistant professor
Craig Franklin, DVM, PhD, professor, director of graduate studies, Laboratory Animal Medicine, Comparative Medicine
Gary S. Johnson, DVM, PhD, associate professor
Gayle C. Johnson, DVM, PhD, professor
Dae Young Kim, DVM, PhD, associate clinical professor
Keiichi Kuroki, DVM, PhD, associate professor
Christian Lorson, PhD, professor
Monique Lorson, PhD, associate research professor
William J. Mitchell Jr., DVM, PhD, associate professor
Alpana Ray, PhD, research professor
Bimal K. Ray, PhD, professor
Thomas Reilly, PhD, associate clinical professor
Heide Schatten, PhD, professor
Monir Shababi, PhD, assistant research professor
Daniel P. Shaw, DVM, PhD, professor

Jerod Skyberg, PhD, assistant professor
Bill Stich, PhD, professor
Catherine Vogelweid, DVM, PhD, clinical professor, director of graduate studies, Veterinary Pathobiology, Area Pathobiology
Marilyn Whitney, DVM, PhD, associate clinical professor
Charles Wiedmeyer, DVM, PhD, associate professor
Fred Williams III, DVM, assistant clinical professor
Guoquan Zhang, DVM, PhD, associate professor
Shuping Zhang, PhD, professor; director, Veterinary Medical Diagnostic Laboratory

Emeriti Faculty
John N. Berg, DVM, PhD, professor emeritus
Gerald M. Buening, DVM, PhD, professor emeritus
C. Andrew Carson, VMD, PhD, professor emeritus
Stan W. Casteel, DVM, PhD, professor emeritus
William H. Fales, PhD, professor emeritus
Harvey S. Goss, DVM, PhD, professor emeritus
Theodore Green, PhD, associate professor emeritus
Reuel R. Hook, PhD, professor emeritus
Robert Kahrs, DVM, PhD, professor and dean emeritus
Ronald McLaughlin, DVM, MS, professor emeritus
Donald Rodabaugh, DVM, MS, professor emeritus
Donald A. Schmidt, DVM, PhD, professor emeritus
Robert F. Solorzano, MS, PhD, professor emeritus
James G. Thorne, DVM, PhD, MPVM, professor emeritus

VETERINARY MEDICINE AND SURGERY

Department Administration
John R. Dodam, DVM, MS, PhD, Diplomate – ACVAA, department chair, professor; professor, Department of Biomedical Sciences
Leah A. Cohn, DVM, PhD, Diplomate – ACVIM (small animal internal medicine), associate department chair, professor, director of graduate studies

Hospital Administration
David A. Wilson, DVM, MS, Diplomate – ACVS, professor; hospital director, Veterinary Health Center

Faculty
Pamela Adkins, DVM, MS, Diplomate – ACVIM (large animal internal medicine), clinical instructor
Govindaraj Anumanthan, PhD, assistant research professor
Robert C. Backus, MS, DVM, PhD, Diplomate – ACVN, associate professor; director, Nestle Purina Endowed Program in Small Animal Nutrition
Sandra Bechtel, DVM, Diplomate – ACVIM (oncology), assistant professor
Keith R. Branson, DVM, MS, Diplomate – ACVAA, assistant teaching professor
Jeffrey N. Bryan, DVM, MS, PhD, Diplomate – ACVIM (oncology), associate professor; director, Comparative Oncology and Epigenetics Laboratory; director, Scott Endowed Program in Veterinary Oncology
Alex D. Bukoski, PhD, DVM, Diplomate – ACVAA, assistant professor
Amie Burling, DVM, Diplomate – ACVP, assistant teaching professor
Shyam Chaurasia, PhD, assistant professor
Joan R. Coates, DVM, MS, Diplomate – ACVIM (neurology), professor; associate director, Comparative Neurology Program
Cristi R. Cook, DVM, MS, Diplomate – ACVR, assistant teaching professor
James L. Cook, DVM, PhD, Diplomate – ACVS, ACVSMR, William and Kathryn Allen Distinguished Professor in Orthopaedic Surgery; director, Comparative Orthopaedic Laboratory
Amy E. DeClue, DVM, MS, Diplomate – ACVIM (small animal internal medicine), associate professor; associate director, Comparative Internal Medicine Laboratory
Elizabeth Easley, DVM, clinical instructor
Tara Ehling, DVM, Diplomate – ACVR, assistant clinical professor
Brian Flesner, DVM, MS, Diplomate – ACVIM (oncology), assistant professor
Derek B. Fox, DVM, PhD, Diplomate – ACVS, associate professor
Barbara Gandolfi, MS, PhD, assistant research professor
Elizabeth A. Giuliani, DVM, MS, Diplomate – ACVO, professor
Meghan Harmon, DVM, Diplomate – ACVECC, clinical instructor
Carolyn J. Henry, DVM, MS, Diplomate – ACVIM (oncology), FNAP, associate dean for Research and Graduate Studies; professor; professor, Division of Hematology and Medical Oncology, School of Medicine; associate director of research, Ellis Fischel Cancer Center; faculty facilitator, One Health/One Medicine Mizzou Advantage, Office of the Provost
Alisa Hutchison, DVM, clinical instructor
Philip J. Johnson, BVSc, MS, MRCVS, Diplomate – ACVIM (large animal internal medicine,) Diplomate – ECEIM, professor
Rebecca A. Johnson, PhD, RN, FAAN, FNAP, professor; Millsap Professor of Gerontological Nursing and Public Policy, Sinclair School of Nursing; director, Research Center for Human-Animal Interaction
Kevin G. Keegan, DVM, MS, Diplomate – ACVS, professor; director of E. Paige Laurie Endowed Program in Equine Lameness
Marie E. Kerl, DVM, MPH, Diplomate – ACVIM (small animal internal medicine), Diplomate – ACVECC, teaching professor
Jackie Kleypas, DVM, clinical instructor
Joanne Kramer, DVM, Diplomate – ACVS, associate teaching professor
Maxie Krueger, MedVet, Diplomate – ACVIM (cardiology), MRCVS, assistant teaching professor
Senthil R. Kumar, MS, PhD, assistant research professor
Joanne Kunz, DVM, clinical instructor
Alison LaCarrubba, DVM, Diplomate – ABVP (equine), assistant teaching professor
Jimmy C. Lattimer, DVM, MS, Diplomate – ACVR (diagnostic radiology), Diplomate – ACVR (radiation oncology), associate professor
Stacey B. Leach, DVM, MS, Diplomate – ACVIM (cardiology), assistant teaching professor
Michael R. Lewis, PhD, professor; associate professor, Nuclear Science and Engineering Institute; research health scientist, VA Research Service, Harry S. Truman Memorial Veterans’ Hospital
Jill Luther, DVM, MS, Diplomate – ACVS (small animal), assistant teaching professor
Leslie Lyons, PhD, Gilbreath-McLorn Endowed Professor of Comparative Internal Medicine; director, Feline Genetics and Comparative Medicine Laboratory
Charles Maitz, DVM, PhD, Diplomate – ACVR (radiation oncology), assistant professor
F.A. (Tony) Mann, DVM, MS, Diplomate – ACVS, Diplomate – ACVECC, professor
Daniela Mauler, DVM, Diplomate – ECVN, assistant teaching professor
Richard L. Meadows, DVM, Diplomate – ABVP (canine and feline practice), Curators Distinguished Teaching Professor
Pedro Melendez, DVM, MS, PhD, associate professor
John R. Middleton, DVM, PhD, Diplomate – ACVIM (large animal internal medicine), professor; assistant director, Agricultural Experiment Station
Emily Miller, DVM, Diplomate – ACVS (small animal), assistant teaching professor

Rajiv R. Mohan, MSc, PhD, Ruth M. Kraeuchi Endowed Professor in Veterinary Ophthalmology; director, One Health/One Medicine Ophthalmology Research Laboratory; professor, Department of Ophthalmology, School of Medicine

Dusty W. Nagy, DVM, MS, PhD, Diplomate – ACVIM (large animal internal medicine), associate teaching professor

Dennis P. O’Brien, DVM, MS, PhD, Diplomate – ACVIM (neurology), professor; director, Comparative Neurology Program; Chancellor’s Chair of Excellence in Comparative Neurology

Craig Payne, DVM, MS, associate extension professor (beef); director, Veterinary Extension and Continuing Education

Jacqueline Pearce, DVM, MS, Diplomate – ACVO, assistant teaching professor

Patrick Pithua, BVSc, MSc, PhD, assistant professor; assistant professor, Master of Public Health program; associate director, Veterinary Public Health Concentration Area

Scott Poock, DVM, Diplomate – ABVP (dairy), associate extension professor

Sudhanshu Raikwar, PhD, assistant research professor

Shannon K. Reed, DVM, MS, Diplomate – ACVS (large animal), assistant teaching professor

Carol R. Reinero, DVM, PhD, Diplomate – ACVIM (small animal internal medicine), associate professor; director, Comparative Internal Medicine Laboratory

Hans Rindt, PhD, research associate

Martha E. Scharf, DVM, clinical instructor

Loren G. Schultz, DVM, MS, Diplomate – ACVPM, associate teaching professor; director, Veterinary Public Health Concentration Area

Kimberly A. Selting, DVM, MS, Diplomate – ACVIM (oncology), Diplomate – ACVR (radiation oncology), associate teaching professor

Aaron M. Stoker, MS, PhD, associate research professor

Angela Tennison, DVM, MS, associate dean for Student Affairs

Bryan Torres, DVM, PhD, Diplomate – ACVS (small animal), assistant professor

Eva Ulery, DVM, clinical instructor

Brian L. VanderLey, DVM, PhD, Diplomate – ACVPM, assistant professor

Dawna L. Voelkl, DVM, Diplomate – ACT, assistant teaching professor

Dietrich H. Volkmann, BVSc, MMedVet, Diplomate – ACT, teaching professor

Allison Wara, DVM, clinical instructor

Dorothy Whechel, DVM, MS, assistant teaching professor

Adjunct Faculty

Craig Datz, DVM, MS, Diplomate – ABVP (canine and feline practice, feline practice), Diplomate – ACVN, adjunct associate professor

Sharin L. Deem, DVM, PhD, adjunct assistant teaching professor, St. Louis Zoo

Paul Dorr, DVM, PhD, adjunct assistant professor

Carrie Duran, DVM, PharmD, adjunct assistant teaching professor

Rebecca J. Greer, DVM, adjunct assistant professor

Thomas J. Fangman, DVM, MS, Diplomate – ABVP, adjunct associate professor

Vamsi Guntur, MSc, MD, adjunct assistant clinical professor

Debra E. Horwitz, DVM, Diplomate – ACVB, adjunct assistant professor

Michael H. Karagiannis, DVM, adjunct assistant professor

David A. Senter, DVM, Diplomate – ACVD, adjunct clinical assistant professor

Tariq Shah, BSc, adjunct assistant professor

Wm. Kirk Suedmeyer, DVM, Diplomate – ACZM, adjunct assistant professor

Ronald Tessman, DVM, PhD, Diplomate – ACVIM (large animal internal medicine), adjunct assistant professor

Fred A. Wininger, VMD, MS, Diplomate – ACVIM (neurology), adjunct assistant professor

Emeriti Faculty

Clarence J. Bierschwale, DVM, MS, Diplomate – ACT, professor emeritus

Claus B. Chastain, DVM, MS, Diplomate – ACVIM (small animal internal medicine), professor emeritus; director, veterinary online programs and undergraduate education

E. Allen Corley, DVM, PhD, Diplomate – ACVR, professor emeritus

Louis A. Corwin, Jr., DVM, PhD, Diplomate – ACVR, professor emeritus

Ross P. Cowart, DVM, MS, Diplomate – ABVP (food animal practice), associate professor emeritus

James E. Creed, DVM, MS, Diplomate – ACVS, professor emeritus

Harold E. Garner, DVM, PhD, professor emeritus

Allen W. Hahn, DVM, PhD, Diplomate – ACVIM (cardiology), professor emeritus

Dudley McCaw, DVM, Diplomate – ACVIM (small animal internal medicine, oncology), professor emeritus

Nat Messer, DVM, Diplomate – ABVP (equine practice), professor emeritus

Robert B. Miller, DVM, MS, PhD, Diplomate – ABVP (food animal practice), associate professor emeritus; director of the Missouri Institute for Cattle

Cecil P. Moore, DVM, MS, Diplomate – ACVO, professor emeritus

Kristina Narfström, DVM, PhD, Diplomate – ECVO, emeritus

Ruth M. Kraeuchi Missouri Endowed Professor in Veterinary Ophthalmology

James L. Tomlinson, DVM, MVSci, Diplomate – ACVS, professor emeritus

Louis G. Tritschler, DVM, MS, professor emeritus

David Weaver, DMV, PhD FRCVS, professor emeritus

Robert S. Youngquist, DVM, Diplomate – ACT, professor emeritus
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