College of Veterinary Medicine and Biomedical Sciences

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Undergraduate Majors
• Biomedical Sciences
• Environmental Health
• Microbiology
• Neuroscience

• Undergraduate Minors
• Biomedical Sciences
• Environmental Health
• Microbiology

College Programs
A concern for health and the diseases of animals and humans provides the unifying theme for the undergraduate, professional, and graduate programs of the College of Veterinary Medicine and Biomedical Sciences—a manifestation of the concept of One Health. The College combines teaching, research, and public service activities in basic biomedical disciplines such as anatomy, neurobiology, physiology, microbiology, pathology, and radiological health sciences, with applied disciplines such as clinical veterinary medicine and surgery, diagnostic imaging, radiology, clinical laboratory sciences, epidemiology, and environmental health sciences. Graduates of the College in either the veterinary sciences or the biomedical sciences serve society in the broadest sense: they represent the concept that there is but “one medicine” supporting “one health” with human and animal health intimately interrelated within their environments.

Major Courses of Study
The College of Veterinary Medicine and Biomedical Sciences offers undergraduate, professional, and graduate courses of study. There are four undergraduate programs leading to the Bachelor of Science with majors in Biomedical Sciences, Environmental Health, Microbiology, and Neuroscience. The Bachelor of Science degree requires a minimum of 120 credits with a minimum of 42 credits in upper-division courses. The four-year professional veterinary medical program leads to the Doctor of Veterinary Medicine degree; students in this program typically complete a baccalaureate degree prior to program admission. Graduate studies in each of the four departments of the college lead to Master of Science and Doctor of Philosophy degrees with selected professional master’s programs serving emerging needs in society and through practitioner skill development.

Education Abroad
Education abroad programs are available to students in the College of Veterinary Medicine and Biomedical Sciences. Because the knowledge of at least one other culture is valuable in understanding our own, students are strongly encouraged to study outside the United States. Students interested in education abroad should plan far in advance by discussing opportunities with their academic advisor and by visiting the Office of International Programs (http://international.colostate.edu) in Laurel Hall.

Continuing and Distance Education
The College of Veterinary Medicine and Biomedical Sciences supports the veterinary profession by offering continuing education courses that enable practicing veterinarians to obtain new medical information and meet the Colorado Veterinary Practice Act’s continuing education requirements for re-licensure. The College shares responsibility for continuing education and maintains close liaison with the American Veterinary Medical Association (AVMA), the Colorado Veterinary Medical Association (CVMA), the Colorado Board of Veterinary Medicine, and the Western Interstate Commission for Higher Education (WICHE). Innovative programs like Health Professions preparation—for students finishing essential courses to prepare to pursue health professions—are offered through CSU Online.

Graduate Programs
Programs leading to the Master of Science and Doctor of Philosophy degrees are offered in all departments of the College.

Students with Bachelor of Science or Doctor of Veterinary Medicine degrees or well-qualified students who are currently pursuing veterinary medicine degrees, are eligible to study for advanced degrees in the Departments of Biomedical Sciences; Clinical Sciences; Environmental and Radiological Health Sciences; and Microbiology, Immunology, and Pathology.

The College of Veterinary Medicine and Biomedical Sciences (CVMBS) and the College of Business have created a combined five-year DVM/MBA program of study that can result in earning both the Master of Business Administration degree and Doctor of Veterinary Medicine degree. Applicants to the Professional Veterinary Medical (DVM) program are encouraged to consider extending their veterinary education to include a one-year start to an M.B.A. degree. After successfully completing the first year of the M.B.A. program, students will be guaranteed admission to the first year of the DVM program and will be expected to complete the remaining M.B.A. course.
requirements concurrently with the first two years of the PVM curriculum. A recent national study of the veterinary profession indicated that traditional scientific skills and knowledge might not be sufficient to capitalize on future economic opportunities. This program was undertaken to improve training of our students in veterinary practice management and business skills.

There is a national need for veterinarians who can serve as the bridge between research and all aspects of animal health and welfare. The College has developed a 7-year DVM/PhD program that will integrate the DVM and PhD training regimens to provide a dual degree to selected candidates. Numerous outstanding research opportunities exist in diverse areas: cancer biology, infectious disease, neurosciences, reproductive biology, epidemiology, orthopedic sciences, environmental health, and toxicology to complement the DVM training program. The typical DVM/PhD program would be

- basic graduate study and laboratory rotations (year 1);
- first two years of DVM training plus electives and graduate work (years 2 and 3);
- exclusive research work in the PhD program (years 4 and 5);
- and completion of the DVM training (years 6 and 7).

Combining the expertise from public/environmental health and veterinary medicine and partnering with the Colorado School of Public Health (http://publichealth.ucdenver.edu), the college has created a five-year DVM/MPH program which will provide specialty training in veterinary medicine and public health. Students spend the first year in the MPH program, years 2 and 3 jointly in the DVM and MPH programs, and then years 4 and 5 focusing on completing the DVM requirements. Given the threats to public health from zoonotic diseases that naturally occur or are purposely caused, this degree allows the graduate to bring a unique skill set to bear on an issue of significant public impact.

For detailed information about graduate programs, refer to the individual departments or write to the department concerned and the Graduate and Professional Bulletin.

**Interdepartmental Program**

**Doctor of Veterinary Medicine**

A four-year professional program in Veterinary Medicine (Professional Veterinary Medicine or DVM) is offered annually to approximately 138 students. Because the number of applicants exceeds the number of students who can be admitted to any class, the members of the Admissions Committee for the College of Veterinary Medicine and Biomedical Sciences carefully evaluate each applicant to recommend those best qualified. Information concerning the academic program which leads to the Doctor of Veterinary Medicine (D.V.M.) degree may be found in the Graduate and Professional Bulletin or online (http://csu-cvmbs.colostate.edu/dvm-program/Pages/default.aspx).

The full course of study requires four years beyond completion of the pre-veterinary requirements. While exceptional students may complete pre-veterinary requirements in two to three years and then be accepted into the Professional Veterinary Medicine Program; it is much more common that students complete a baccalaureate degree followed by four years in the professional program.

**Pre-Veterinary Training for the Professional Veterinary Medicine Program**

Students may take their pre-professional (pre-veterinary) training at any accredited institution whether these courses are part of a regularly offered baccalaureate program or whether the courses are taken as "stand alone" choices independent of a degree program. However, courses must be substantially equivalent in subject content and level as offered for pre-veterinary students at CSU.

Inquiries regarding equivalent or substitute courses that may be taken specifically to meet pre-veterinary preparation requirements should be directed to DVMAdmissions@colostate.edu. There is also a format for requests Prerequisite Substitute Course Request (http://csu-cvmbs.colostate.edu/Documents/dvm-preparatory-coursework-guide.pdf), which can be submitted to DVMAdmissions@colostate.edu.

While CSU students meeting the pre-veterinary requirements as an integral part of a degree program will take a higher number of credits, the minimum course requirements for admission to the Professional Veterinary Medicine program, exclusive of electives, are:

- Arts, Humanities, Behavioral and Social Sciences – at least 12 semester credits. (The required credits for English composition explicit in most programs of study as all university requirements—see category that follows—do not fulfill these requirements.)
- Biological Sciences – at least three semester credits in genetics and a laboratory associated with a biological science course.
- Chemistry – at least three semester credits in biochemistry (requiring organic chemistry as a prerequisite) and a laboratory associated with a chemistry course.
- English Composition – at least three semester credits.
- Physics – at least four semester credits with laboratory.
- Statistics – at least three semester credits (upper-division course preferred).

Additional courses that are not required, but highly recommended, are anatomy, cell biology, developmental biology, histology, microbiology, nutrition, physiology, and computer science. These courses will enhance the student's preparation for the Professional Veterinary Medicine program.

The pre-veterinary requirement includes the previous categories and credits plus additional credits to total 60 semester credits that must be completed prior to admission to the Professional Veterinary Medicine program. Students may apply prior to completing all prerequisite requirements, however in order to assure the most competitive application, one is encouraged to have the majority of the prerequisites completed at time of application. The clear majority of students will complete the pre-veterinary requirements as part of a baccalaureate program. Exceptional students may apply for admission to the Professional Veterinary Medicine program when only the pre-veterinary requirements are meet.

Students who wish to pursue pre-professional veterinary medicine training (sufficient to meet minimum requirements to apply to the Colorado State Professional Veterinary Medicine Program) through courses offered at CSU as part of their undergraduate degree program will find detailed information online (http://csu-cvmbs.colostate.edu/Documents/dvm-preparatory-coursework-guide.pdf).
**Food Animal Veterinary Career Incentive Program**

There are many vacancies and numerous career opportunities in all sectors of private food animal practice including mixed animal practice, and specialty practices in dairy cattle, beef cow-calf, beef feedlots, sheep, and swine. There are also many opportunities in public practice including food safety and inspection, communicable disease management, and regulatory veterinary medicine. Many practitioners and producers have found it difficult to recruit new graduates into food and fiber animal practice, especially in rural communities. Reduced veterinary participation in food and fiber production animal medicine may contribute to increased vulnerability of livestock industries to emerging infectious diseases, exotic and zoonotic diseases, public health risks from food safety and quality problems, lowered public confidence in animal agricultural products as well as threats to the national economy. Thus, the overarching goal of the Food Animal Veterinary Career Incentive Program (FAVCIP) is to create a sustainable source of future veterinarians for underserved disciplines and geographic regions central to the future of safe and successful food and fiber animal production. This program includes a plan of academic work, experience, and mentoring that encompasses undergraduate and veterinary medical education and meets specific needs of animal agriculture through a cooperative venture of the College of Veterinary Medicine and Biomedical Sciences and the Department of Animal Sciences in the College of Agricultural Sciences. Additional options to proceed to veterinary school focusing on food and fiber animal production are described within the FAVCIP literature.

Undergraduate students with a strong interest in the discipline will be encouraged to follow the FAVCIP curriculum and program requirements (http://csu-cvms.colostate.edu/dvm-program/Pages/DVM-Special-Programs.aspx) as they complete their Bachelor of Science in Animal Science at CSU.