

# COMPARATIVE BIOMEDICAL SCIENCES (VMSC)

Graduate Degree Program  
College: Agriculture and Natural Resources

## Abstract

The **Department of Veterinary Medicine** under the **College of Agriculture and Natural Resources (AGNR)** at the **University of Maryland** is home to the **Veterinary Medical Sciences (VMSC) Graduate Program**. The **Department of Veterinary Medicine** is the Maryland Campus of the **Virginia-Maryland College of Veterinary Medicine**.

The program offers both **Master of Science (M.S.)** and **Doctor of Philosophy (Ph.D.)** degrees. Members of the VMSC Graduate Program faculty specialize in a wide range of research interests in infectious diseases and zoonoses, including cell and molecular biology, microbiology, immunology, virology, and poultry health management and disease prevention.

## Financial Assistance

A number of graduate assistantships are available and awarded to candidates with strong academic records.

Teaching Assistantships, Research Assistantships, Scholarships, and Fellowships are available on a competitive basis. Research Assistantships (RAs) are 12-month appointments and Teaching Assistantships (TAs) are 10-month appointments. Benefits for each assistantship include stipends, ten credits of tuition remission per semester, and health benefits. Generally, student assistantships are offered for two years for an M.S. degree and four years for a Ph.D. degree.

Sources of funding include the department; Maryland Agricultural Experiment Station; Maryland Cooperative Extension; College of Agriculture and Natural Resources; Graduate School open-nomination and block grant fellowships (for recruitment of new students only); University diversity fellowships; endowed fellowships; and funds from faculty research contracts and grants. Inquiry about the stipends can be made to the VMSC Graduate Program.

## Contact

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**Website:** <http://vetmed.umd.edu>

**Courses:** VMSC (<https://academiccatalog.umd.edu/graduate/courses/vmsc/>)

**Relationships:** Biological Sciences (BISI) (<https://academiccatalog.umd.edu/graduate/programs/biological-sciences-bisi/>)

## Admissions General Requirements

- Statement of Purpose
- Transcript(s)
- TOEFL/IELTS/PTE (international graduate students (<https://gradschool.umd.edu/education/z069/>))

## Program-Specific Requirements

- Letters of Recommendation (3)
- CV/Resume
- Description of Research/Work Experience

Applicants with a minimum degree of **Bachelor of Science (B.S.)** in a biological science or related field of study are eligible for admission to the VMSC Graduate Program, either for Ph.D. or M.S. degree.

A minimum Grade Point Average (GPA) of 3.0 on a 4.0 scale (B or better). Graduate Record Examination (GRE) is optional. Applicants who have GRE scores are encouraged to submit.

For more admissions information or to apply to the program, please visit our Graduate School website (<https://gradschool.umd.edu/admissions/application-process/step-step-guide-applying/>).

Type of Applicant	Fall Deadline	Spring Deadline
<b>Domestic Applicants</b>		
US Citizens and Permanent Residents	2 June	18 Nov
<b>International Applicants</b>		
F (student) or J (exchange visitor) visas; A,E,G,H,I and L visas and immigrants	12 Mar	30 Sep

**Other Deadlines:** Please visit the program website at <http://vetmed.umd.edu>

## Requirements

- Veterinary Medical Sciences, Doctor of Philosophy (Ph.D.) (<https://academiccatalog.umd.edu/graduate/programs/veterinary-medical-sciences-vmsc/veterinary-medical-sciences-phd/>)
- Veterinary Medical Sciences, Master of Science (M.S.) (<https://academiccatalog.umd.edu/graduate/programs/veterinary-medical-sciences-vmsc/veterinary-medical-sciences-ms/>)

## Facilities and Special Resources

The Avrum Gudelsky Veterinary Center, the University of Maryland home of the VMRCVM, lies in the heart of Maryland's thriving biotechnology community and is near Maryland's major university research campuses and government laboratories, including the USDA Beltsville Agriculture Research Center, the National Institutes of Health, and Walter Reed National Military Medical Center. The Center contains 32,000 square feet of research and support laboratories, including animal care facilities. Over 10,000 square-foot research laboratories are fully equipped with state-of-the-art facilities for research on cell biology, molecular biology, microbiology, virology and immunology, including cell culture facilities, ZEISS LSM 800 confocal microscope, fluorescence activated cell sorter, flow cytometer, the Illumina MiSeq System for next-generation

sequencing, fluorescence microscopes, Elispot/Fluorospot Reader, and a sophisticated electron microscope suite. Approximately 18,000 square feet of space comprises Biological Safety Level (BSL) 2 and BSL-3+ facilities and ABSL2 and ABSL3 suites for laboratory animals. The poultry unit has 15 rooms, each equipped with 20 poultry isolators to contain any infectious pathogens. The animal facility has a fully equipped necropsy room designed for postmortem analysis.

The Laboratory for Biological Ultrastructure in the Department of Biology is equipped with a transmission and scanning electron microscope, a confocal microscope, ultramicrotomes, and equipment for freeze-fracture studies. The Department of Cell Biology and Molecular Genetics maintains imaging core, genomics core, flow cytometry, and proteomics core. The Fischell Department of Bioengineering maintains the BioWorkshop in A. James Clark Hall at the University of Maryland, which offers access to an array of cutting-edge scientific instruments spanning from biological imaging, cellular and biochemical analysis to biomaterial characterization, and histology. The University of Maryland has the Department of Laboratory Animal Resources (DLAR), a support unit for animal-based research and teaching. Extensive library facilities are available on campus. In addition, the College Park campus is close to the National Agricultural Library (NAL) and the National Library of Medicine (NLM). The Library of Congress and the National Archives, along with several other libraries of biomedical research and academic institutes, are located within a short driving distance.

Computer facilities at the University of Maryland are outstanding. The department provides computer access to all faculty and graduate students. Students are provided with e-mail accounts and free Internet access. The campus maintains both Unix and mainframe systems, and access to supercomputers for specific research projects. Software for graphics, modeling, statistics, and the analysis of molecular data is readily available.

The College Park campus is also ideally situated near a number of federal agencies involved in veterinary medical sciences. Collaborative initiatives are underway with the U.S. Food and Drug Administration's Centers for Veterinary Medicine (CVM) and Food Safety and Applied Nutrition (CFSAN); U.S. Department of Agriculture's Animal and Plant Health Inspection Services (APHIS), Food Safety and Inspection Service (FSIS), Agricultural Research Service (ARS), and Beltsville Agriculture Research Service (BARC); National Institutes of Health (NIH); Walter Reed National Military Medical Center; World Bank; and Pan American Health Organization (PAHO). Scientists from some of these agencies have adjunct appointments with the College of Veterinary Medicine and participate on students' graduate committees.