



Twin Cities Campus

Veterinary Medicine Ph.D.

College of Veterinary Medicine - Adm

College of Veterinary Medicine

Link to a [list of faculty](#) for this program.

Contact Information:

College of Veterinary Medicine, 1365 Gortner Avenue, Room 443 VMC, Saint Paul, MN 55108 (612-625-3770; fax: 612-626-2825)

Email: cvmmsphd@umn.edu

Website: <http://www.vetmed.umn.edu/education-training/ms-phd-programs>

- Program Type: Doctorate
- Requirements for this program are current for Spring 2019
- Length of program in credits: 48
- This program requires summer semesters for timely completion.
- NO
- Degree: Doctor of Philosophy

Along with the program-specific requirements listed below, please read the [General Information](#) section of the catalog website for requirements that apply to all major fields.

The veterinary medicine graduate program focuses on the scientific study of the mechanisms of transmission and progression of diseases of importance to domestic animals, wildlife and humans with applications to diagnosis, prevention, and treatment. Includes training in infectious and noninfectious disease, epidemiology, environmental biology, ethology, anatomical, clinical and molecular pathobiology.

Accreditation

This program is accredited by NA

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Prerequisites for Admission

The preferred undergraduate GPA for admittance to the program is 3.25.

DVM or equivalent; students with a BA or BS in biological sciences may be considered. Previous laboratory experience is preferred.

Other requirements to be completed before admission:

Applicants must submit a CV or résumé; three letters of recommendation from persons familiar with their scholarship and research potential; and a statement of any research experience, as well as career interests, goals, and objectives.

Special Application Requirements:

Submission of all application materials by December 1 is required to ensure consideration for fellowships and research assistantships awarded for the next academic year.

Applicants must submit their test score(s) from the following:

- GRE

International applicants must submit score(s) from one of the following tests:

- TOEFL
 - Internet Based - Total Score: 79
 - Internet Based - Writing Score: 21
 - Internet Based - Reading Score: 19
 - Paper Based - Total Score: 550
- IELTS
 - Total Score: 6.5
 - Reading Score: 6.5
 - Writing Score: 6.5
- MELAB



- Final score: 80

The preferred English language test is Test of English as Foreign Language

Key to [test abbreviations](#) (GRE, TOEFL, IELTS, MELAB).

For an online application or for more information about graduate education admissions, see the [General Information](#) section of the catalog website.

Program Requirements

24 credits are required in the major.

0 credits are required outside the major.

24 thesis credits are required.

This program may be completed with a minor.

Use of 4xxx courses toward program requirements is permitted under certain conditions with adviser approval.

A minimum GPA of 3.00 is required for students to remain in good standing.

VMED Program Courses

Take the following courses for 9 credits. VMED 8550 must be taken twice.

[VMED 5190](#) - Effective Science Communication (2.0 cr)

[VMED 5910](#) - Grant Writing: What Makes a Winning Proposal? (2.0 cr)

[VMED 8134](#) - Ethical Conduct of Animal Research (3.0 cr)

[VMED 8550](#) - Veterinary Medicine Seminar (1.0 cr)

Statistics Requirement

Take at least one statistics course, in consultation with the advisor. Two statistics courses are preferred.

[VMED 8910](#) - Statistical Principles of Research Design (3.0 cr)

or [PUBH 6414](#) - Biostatistical Literacy (3.0 cr)

or [PUBH 6450](#) - Biostatistics I (4.0 cr)

or [PUBH 6451](#) - Biostatistics II (4.0 cr)

or [STAT 5021](#) - Statistical Analysis (4.0 cr)

or [STAT 5031](#) *(Inactive)* (4.0 cr)

or [STAT 5302](#) - Applied Regression Analysis (4.0 cr)

or [STAT 5303](#) - Designing Experiments (4.0 cr)

or [STAT 5421](#) - Analysis of Categorical Data (3.0 cr)

8000-Level Coursework Requirement

Take at least 3 8000-level biological sciences courses from the following list, or select others, in consultation with the advisor. CMB 8202 is recommended.

[BIOC 8002](#) - Molecular Biology and Regulation of Biological Processes (3.0 cr)

or [BIOC 8216](#) - Signal Transduction and Gene Expression (3.0 cr)

or [GCD 8008](#) - Mammalian Gene Transfer and Genome Engineering (2.0 cr)

or [GCD 8073](#) - Genetics & Genomics in Human Health (2.0 cr)

or [GCD 8131](#) - Advanced Molecular Genetics and Genomics (3.0 cr)

or [GCD 8151](#) - Cellular Biochemistry and Cell Biology (2.0 - 4.0 cr)

or [GCD 8161](#) - Advanced Cell Biology and Development (2.0 cr)

or [CMB 8100](#) - Research Rotation in Comparative and Molecular Biosciences (1.0 cr)

or [CMB 8202](#) - Mechanisms of Animal Health and Disease II (3.0 cr)

or [CMB 8303](#) - Comparative Models of Disease (2.0 cr)

or [CMB 8344](#) - Mechanisms of Hormone Action (2.0 cr)

or [CMB 8571](#) - Pathogenomics and Molecular Epidemiology - Learning to Fly (3.0 cr)

or [VMED 8192](#) - Dairy Health Management: Critical Thinking (1.0 cr)

or [VMED 8193](#) *(Inactive)* (1.0 cr)

or [VMED 8394](#) - Research in Veterinary Medicine (1.0 - 3.0 cr)

or [VMED 8492](#) - Seminar: Infectious Diseases and Swine Medicine (1.0 cr)

or [VMED 8592](#) - Infectious Disease Journals: Critical Thinking (1.0 cr)

Additional Coursework

Take additional courses from the following list, or select others in consultation with the advisor, to complete the minimum course credit requirement.

[VPM 4131](#) - Immunology (3.0 cr)



or [VMED 5165](#) - Surveillance of Foodborne Diseases and Food Safety Hazards (2.0 cr)
or [VMED 5180](#) - Ecology of Infectious Disease (3.0 cr)
or [VMED 5181](#) - Spatial Analysis in Infectious Disease Epidemiology (3.0 cr)
or [VMED 5182](#) - Molecular biology for the Public Health Professional (2.0 cr)
or [VMED 5190](#) - Effective Science Communication (2.0 cr)
or [VMED 5442](#) - Quantitative Methods for Population Health (3.0 cr)
or [VMED 5594](#) - Research in Veterinary Medicine (1.0 - 4.0 cr)
or [VMED 5596](#) - Swine Diseases and Diagnostics (2.0 - 3.0 cr)
or [VMED 5910](#) - Grant Writing: What Makes a Winning Proposal? (2.0 cr)
or [VMED 5921](#) - Protecting your Lunch: Food Defense Awareness (1.0 cr)
or [CMB 5200](#) - Statistical Genetics and Genomics (4.0 cr)
or [CMB 5571](#) - Pathogenomics and Molecular Epidemiology - Learning to Fly (3.0 cr)
or [PUBH 6341](#) - Epidemiologic Methods I (3.0 cr)
or [PUBH 6342](#) - Epidemiologic Methods II (3.0 cr)
or [PUBH 6343](#) - Epidemiologic Methods III (4.0 cr)
or [PUBH 6350](#) - Epidemiologic Methods III: Lab (1.0 cr)
or [PUBH 6385](#) - Epidemiology and Control of Infectious Diseases (2.0 cr)

Thesis Credits

Take at least 24 doctoral thesis credits.

[VMED 8888](#) - Thesis Credit: Doctoral (1.0 - 24.0 cr)