College of Veterinary Medicine

The College of Veterinary Medicine at Oregon State University was established in 1975 with three major areas of responsibility—teaching, research, and public service. The college is fully accredited by the American Veterinary Medical Association’s Council on Education.

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Corvallis, OR 97331-4801
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Administration
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Teaching
The college was established in 1975 and began its professional education program in 1979. Approximately 40 residents of Oregon and 16 nonresident students are selected to enter the OSU College of Veterinary Medicine. These students will complete all four years of their professional education in Corvallis. Completion of the professional program leads to the Doctor of Veterinary Medicine (DVM) degree.

There are two departments supporting the DVM doctoral program: Biomedical Sciences and Clinical Sciences.

Comprehensive research training is provided through graduate programs leading to the MS degree in Comparative Health Sciences.

Post-DVM residency training leading to board eligibility in several clinical disciplines and pathology is also available.

Research
Biomedical research is conducted in the college, supported by federal agencies such as NIH, USDA, DOE, as well as by a number of foundations. Collaboration with the OSU Agricultural Experiment Station, colleges of Pharmacy, Public Health and Human Sciences, Engineering and many other colleges, is part of the program. The research is of economic and public health significance, aimed at improving the health of animals and people.

The college emphasizes research of infectious diseases, such as those caused by Mycobacteria, Chlamydia, Clostridia, Vibrio, Mycoplasma, Cryptosporidium, herpesvirus, respiratory syncytial virus, influenza virus, and HIV-1 virus. Research is also conducted on immunity and nutrition, neuroscience, cancer, cardiovascular diseases, diabetes, reproductive diseases, and diseases of terrestrial and aquatic wildlife.

Public Service
The service programs focus on the diagnosis, prevention, treatment, and control and prevention of animal diseases. The college assists veterinary practitioners, animal owners, and the general public through the Veterinary Diagnostic Laboratory and the Veterinary Teaching Hospital.

The Veterinary Diagnostic Laboratory is a full-service facility providing a wide range of animal disease diagnostic testing services to veterinarians, animal owners, and public agencies. The laboratory offers testing and expertise in pathology, clinical pathology, bacteriology, and virology, and is accredited by the American Association of Veterinary Laboratory Diagnosticians.

The Veterinary Teaching Hospital is designed and equipped for diagnosis and medical and surgical treatment of canine, feline, equine, food animal, and camelid patients. Patients are admitted directly from animal owners and through referrals from practicing veterinarians in Oregon and the Pacific Northwest. Imaging (radiology, ultrasonography, fluoroscopy, CAT scan, MRI, and scintigraphy), anesthesiology, pharmacy, intensive care, and other services are available to support the hospital functions.

The Veterinary Diagnostic Laboratory and the Veterinary Teaching Hospital serve as learning centers where senior veterinary students and residents study animal disease, diagnosis, treatment, and prevention.

Providing continuing education for veterinarians is also considered a major responsibility of the college. One- to three-day intensive courses of instruction on specific topics are offered periodically.

Career Opportunities in Veterinary Medicine
Opportunities for employment in veterinary medicine are excellent. Nearly 70 percent of the professionally active veterinarians in the United States are engaged in private practice. Some practices are limited to types of animals, such as food animal, equine, or companion animal practices. Others involve specialties such as surgery, ophthalmology, cardiology, or radiology. In addition to private practice, there are numerous teaching and research opportunities in academic, government, and industrial settings. Expanding areas include laboratory animal medicine and public health.

Veterinary Student Expenses
Oregon resident students registered in the College of Veterinary Medicine will pay tuition and fees of approximately $7,106 per term. Students from the WICHE (http://www.wiche.edu/states) states will pay the same fees as Oregon resident students. Nonresident student fees currently are $13,733 per term.

Veterinary students must provide required professional attire, as well as dissection, surgical, and diagnostic instruments, and notes and books.

Occasional field trips are scheduled in the veterinary curriculum. Transportation is provided by the university for required trips, but students must provide their own food and lodging. For optional trips, the student is usually expected to provide transportation, lodging, and food. All other expenses, such as residence hall and living expenses, are the same as for students in other colleges of the university.

Students desiring additional information about veterinary medicine should write to the Office of the Dean, College of Veterinary Medicine, Oregon State University, 200 Magruder Hall, Corvallis, Oregon 97331-4801.
Policy on Laboratory and Duty Hours

During the professional curriculum, several laboratory exercises in the preclinical years require the use of live animals. The exercises are designed to complement didactic lectures and demonstrations through hands-on experience with various species of animals. In all instances, the animals are humanely treated and anesthetized if the procedures are potentially painful.

During the clinical years, animals are used in laboratory exercises in the teaching of basic surgical skills and medical procedures. In most instances, the animals are anesthetized. Strict protocol is enforced regarding the animals' well-being in exercises requiring post-operative recovery. All use of animals in teaching is approved by the university's Institutional Animal Care and Use committee.

During the fourth year of the veterinary curriculum, students complete rotations in sections of the Veterinary Teaching Hospital and Veterinary Diagnostic Laboratory. Emergency services are offered to the public on a 24-hour basis, seven days a week. Student assignments in the clinical blocks are demanding, and students are required to spend time at night, weekends, and holidays in the delivery of health care to patients. Hospital operations continue seven days per week, and students are responsible for their assigned tasks regardless of time and day of the week.

DVM and MPH Dual Degree

Students enrolled in the Doctor of Veterinary Medicine (DVM) degree program wishing also to complete a Master's of Public Health degree may do so if successfully admitted to the Graduate School and the College of Public Health and Human Sciences (CPHHS). Using pre-approved and cross-listed courses as electives, veterinary students may complete the MPH degree with an additional (5th) year of study.

The CPHHS offers an MPH degree in six tracks: Biostatistics; Epidemiology; Environment, Safety and Health; Health Management and Policy; Health Promotion and Health Behavior; and International Health.

In order to maximize use of elective courses in the dual degree program, it is important that veterinary students enter the dual degree option as early in their studies as possible.

The five core MPH courses are offered through distance education. In consultation with the student's MPH adviser, internships, culminating activities and senior papers should be coordinated as well. The student’s MPH adviser must approve all veterinary courses counted toward the MPH degree.

For more information, see http://health.oregonstate.edu/degrees/graduate/public-health/mph/dvm-mph-dual-degree.

Faculty

Professors Bermudez, Bildfell, Craig, Hall, Häse, Heidel, Jin, Kent, Magnusson, Rockey, Sarker, Tornquist, Valentine
Associate Professors Jolles, Löhr, O'Reilly, Pastey
Assistant Professors Chappell, Danelishvili, Dolan, Gorman, D. Johns, J. Johns, Medlock, Miller-Morgan, Moulton, Nigussie, Ramsey, Russell, Shulzhenko
Instructors Alcantar, Mansouri, Sona
Adjunct Fu
Emeriti Blythe, Engel, Hutton, Matsumoto, A. Smith, B. Smith, Snyder, Timm
Courtesy Allen, Burco, Cooper, Gillin, Harrenstien, Paredes-Sabja, Steinauer, Trevejo, Wolf

Clinical Sciences

Chris Cebra, Chair
Department of Clinical Sciences
272 Magruder Hall
Oregon State University
Corvallis, OR 97331-4801
541-737-5568
Email: chris.cebra@oregonstate.edu
Website: http://vetmed.oregonstate.edu/departments/clinical

Faculty

Professors Cebra, Riebold, Semevolos
Associate Professors Baltzer, deMorais, Estill, Huber, Mandsager, McKenzie, Parker, Ruax, Stieger-Vanegas, Warnock, Zellmer
Assistant Professors Bracha, Cooley, Curran, Gordon, Klopfenstein, LeBlanc, Mecham, Milovancev, Montilla, Nemanic, Palmer, Schlipf, Scollan, Townsend, Vanegas
Instructor Miller
Emeriti Crisman, Pearson, Sisson, Watrous
Adjunct Campbell
Courtesy Brown, Otteman

Professional Program

• Veterinary Medicine (http://catalog.oregonstate.edu/college-departments/veterinary-medicine/veterinary-medicine-dvm)

Veterinary Medicine Biomedical

VMB 110. PREVETERINARY MEDICINE. (1 Credit)
Introduction to the profession's role in society. Graded P/N.
VMB 328. WILDLIFE CAPTURE AND IMMOBILIZATION. (2 Credits)
Manual and chemical restraint methods are covered with an emphasis on darting equipment, animal and human safety, drug pharmacology and species specific recommendations. CROSSLISTED as FW 328. Lec/lab.
Equivalent to: FW 328
This course is repeatable for 4 credits.

VMB 415. ONE HEALTH IN PRACTICE. (3 Credits)
One health is the concept that human, animal and environmental health are all intertwined. The course will utilize current one health issues such as disease outbreaks and antimicrobial resistance to encourage students from diverse fields to develop interdisciplinary collaboration and communication skills. CROSSLISTED as BHS 415.
Equivalent to: BHS 415

or email cvmproginfo@oregonstate.edu or see our website at http://vetmed.oregonstate.edu/.
VMB 499. SPECIAL TOPICS. (1-16 Credits)
Special studies course to allow different instructors the ability to teach a new class or one time class. Graded P/N.
This course is repeatable for 16 credits.

VMB 501. RESEARCH. (1-16 Credits)
Graded P/N.
This course is repeatable for 16 credits.

VMB 503. THESIS. (1-12 Credits)
This course is repeatable for 999 credits.

VMB 505. READING AND CONFERENCE. (1-16 Credits)
Graded P/N.
This course is repeatable for 16 credits.

VMB 507. SEMINAR. (1-16 Credits)
Graded P/N.
This course is repeatable for 16 credits.

VMB 517. VETERINARY PHYSIOLOGY. (5 Credits)
Physiology of body fluids, muscles, membranes, intermediary metabolism, cardiovascular system, and metabolism.

VMB 518. VETERINARY PHYSIOLOGY. (5 Credits)
Physiology of gastrointestinal, endocrine and reproductive systems.
Prerequisites: VMB 517 with C or better

VMB 519. VETERINARY PHYSIOLOGY. (4 Credits)
Physiology of respiratory and renal systems and acid-base balance.
Prerequisites: VMB 518 with C or better

VMB 521. ANIMAL MODELS. (3 Credits)
Selection/use criteria for models describing animal or human diseases or processes with emphasis on experimental design, validation, transgenic technology, population dynamics, husbandry, and ethics.

VMB 523. ZOONOSES. (3 Credits)
Interactive examination of the molecular basis of diseases that are transmissible between animals and humans. Emphasis on bacterial, viral and parasitic pathogens of animals and humans.

VMB 601. RESEARCH. (1-16 Credits)
Graded P/N.
This course is repeatable for 16 credits.

VMB 603. THESIS. (1-16 Credits)
This course is repeatable for 999 credits.

VMB 605. READING AND CONFERENCE. (1-16 Credits)
This course is repeatable for 16 credits.

VMB 606. PROJECTS. (1-16 Credits)
Graded P/N.
This course is repeatable for 16 credits.

VMB 607. SEMINAR. (1-16 Credits)
One-credit section; VMB 607 Sect. 1. Graded P/N.
This course is repeatable for 16 credits.

VMB 611. VETERINARY GROSS ANATOMY. (4 Credits)
Systematic and topographic study and dissection of the dog, cat, horse, ruminant, pig, and chicken.

VMB 612. VETERINARY GROSS ANATOMY. (4 Credits)
Systematic and topographic study and dissection of the dog, cat, horse, ruminant, pig, and chicken.

VMB 613. VETERINARY GROSS ANATOMY. (4 Credits)
Systematic and topographic study and dissection of the dog, cat, horse, ruminant, pig, and chicken.

VMB 614. VETERINARY MICROSCOPIC ANATOMY. (4 Credits)
Structure and development of cells, tissues, organs, and organ systems of animals.

VMB 615. VETERINARY MICROSCOPIC ANATOMY. (3 Credits)
Structure and development of cells, tissues, organs, and organ systems of animals.

VMB 620. VETERINARY IMMUNOLOGY. (5 Credits)
Clinical and diagnostic aspects of immunological mechanisms, serological reactions; hypersensitivity, allergy, and disorders of the immune system.

VMB 621. GENERAL PATHOLOGY. (4 Credits)
General principles of pathology, cell injury and death, inflammation and tissue repair, abnormalities of cell growth, and structures and mechanisms of disease.

VMB 622. PATHOLOGY LABORATORY. (1 Credit)
Laboratory instruction to complement VMB 621.
Prerequisites: VMB 611 (may be taken concurrently) with C or better

VMB 627. ORNAMENTAL FISH MEDICINE. (2 Credits)
Prepares students for careers in laboratory animal medicine. Provides a review of medical conditions, diagnosis and treatment of research animals.

VMB 628. SEMINARS IN LABORATORY ANIMAL MEDICINE. (2 Credits)
Prepares students for careers in laboratory animal medicine. Provides a review of medical conditions, diagnosis and treatment for research animals.

VMB 629. SEMINARS IN LABORATORY ANIMAL MEDICINE. (2 Credits)
Prepares students for careers in laboratory animal medicine. Provides a review of medical conditions, diagnosis and treatment for research animals.

VMB 630. MECHANISMS OF DISEASE. (3 Credits)
Cellular and molecular events that contribute to the pathogenesis of disease in animals, including humans. Host interactions with infectious agents and the environment.

VMB 631. MATHEMATICAL MODELING OF BIOLOGICAL SYSTEMS. (3 Credits)
The use of mathematical modeling in biological sciences is studied. A variety of modeling techniques are covered including implementing the methods computationally.

VMB 633. SELECTED TOPICS IN VETERINARY MEDICINE. (3 Credits)
Topics vary; check Schedule of Classes for particular topics.

VMB 635. VETERINARY VIROLOGY. (4 Credits)
Virology for the professional and graduate student.

VMB 653. VETERINARY BACTERIOLOGY AND MYCOLOGY. (5 Credits)
Veterinary bacteriology and mycology for the veterinary graduate student.

VMB 660. VETERINARY PARASITOLOGY. (5 Credits)
A study of the parasitic diseases of domestic animals with an emphasis on diagnosis and treatment. Fundamentals in host-parasite interactions, taxonomy and life cycle strategies are covered.
VMB 663. VETERINARY DIAGNOSTIC PATHOLOGY. (6 Credits)
Practical hands-on course training students in the diagnostic pathology utilizing case material received at the OSU Veterinary Diagnostic Lab. Graded P/N.

VMB 664. COMPARATIVE MICROSCOPIC PATHOLOGY. (1 Credit)
Case-based discussion course to train participants in the recognition, description, and pathogenesis of a wide variety of disease processes with an emphasis on microscopic features. Graded P/N.
This course is repeatable for 4 credits.

VMB 665. READINGS IN VETERINARY PATHOLOGY. (1 Credit)
Group discussions of assigned readings central to understanding of veterinary pathology, including recent advances. Graded P/N.
This course is repeatable for 6 credits.

VMB 666. VETERINARY MEDICINE AND PUBLIC HEALTH. (3 Credits)
Covers aspects of veterinary medicine that affect human health. An understanding of the contribution of the veterinary profession to human (public) health will enable students to play an effective role in this area, regardless of career direction.

VMB 667. VETERINARY EPIDEMIOLOGY. (3 Credits)
A course for veterinary students describing the factors determining the frequency and distribution of diseases, in a defined population of animals for the purpose of establishing programs to prevent and control their development and spread in this population.

VMB 669. INTRODUCTION TO GRANT PROPOSAL WRITING. (2 Credits)
To introduce students to the fundamentals of writing grant proposals to the National Institute of Health (NIH), different funding mechanisms, as well as the grant reviewing process. CROSSLISTED as PHAR 669.
Equivalent to: PHAR 669
This course is repeatable for 20 credits.

VMB 670. INTRODUCTION TO SYSTEMS BIOLOGY. (2 Credits)
Students will gain a high-level overview of systems biology and bioinformatics, with an emphasis on biomedical applications, integration of "omics" approaches, and biological networks.

VMB 671. MOLECULAR TOOLS. (3 Credits)
Intended for personnel with some scientific background who are seeking basic- and advanced-level molecular biology knowledge and who wish to become involved with molecular biology-related and biotechnological research. CROSSLISTED as MCB 671.
Equivalent to: MCB 671

VMB 672. MOLECULAR APPROACH TO CANCER. (1 Credit)
Overview of cancer pathogenesis and current molecular techniques to diagnose and treat various neoplasms is provided. Content will include both veterinary and human data and concepts. Discussion/Lab. Graded P/N.

VMB 673. COMPARATIVE IMMUNOLOGY. (3 Credits)
Examines immune system function in animals other than mice and men with a focus on adapting cutting-edge technologies.

VMB 674. VACCINES AND NEW THERAPIES. (3 Credits)
Provides students with a cohesive understanding of the basic research behind the discovery of new therapeutic targets and scientific advancements used in development of vaccines and new therapies.

VMB 699. SPECIAL TOPICS. (1-16 Credits)
This course is repeatable for 99 credits.

VMB 701. RESEARCH. (1-16 Credits)
This course is repeatable for 16 credits.

VMB 705. READING AND CONFERENCE. (1-16 Credits)
This course is repeatable for 16 credits.

VMB 706. PROJECTS. (1-16 Credits)
This course is repeatable for 16 credits.

VMB 709. VETERINARY MEDICINE ORIENTATION. (1 Credit)
An overview of veterinary medicine with emphasis on historical development, current veterinary medical issues, employment opportunities, and professionalism. Graded P/N.

VMB 711. VETERINARY GROSS ANATOMY. (4 Credits)
Systematic and topographic study and dissection of the dog, cat, horse, ruminant, pig, and chicken.

VMB 712. VETERINARY GROSS ANATOMY. (4 Credits)
Systematic and topographic study and dissection of the dog, cat, horse, ruminant, pig, and chicken.

VMB 713. VETERINARY GROSS ANATOMY. (4 Credits)
Systematic and topographic study and dissection of the dog, cat, horse, ruminant, pig, and chicken. Lec/lab.

VMB 714. VETERINARY MICROSCOPIC ANATOMY. (4 Credits)
Structure and development of cells, tissues, organs, and organ systems of animals.

VMB 715. VETERINARY MICROSCOPIC ANATOMY. (3 Credits)
Structure and development of cells, tissues, organs, and organ systems of animals.

VMB 716. VETERINARY NEUROSCIENCES. (4 Credits)
Structural and functional relationships of the nervous system and organs of special sense with emphasis on general clinical application.

VMB 717. VETERINARY PHYSIOLOGY. (5 Credits)
Physiology of body fluids, excretion, respiration, acid-base balance, blood, muscle, bone, cardiovascular system, digestion, metabolism, endocrine system, reproduction, and lactation.

VMB 718. VETERINARY PHYSIOLOGY. (5 Credits)
Physiology of body fluids, excretion, respiration, acid-base balance, blood, muscle, bone, cardiovascular system, digestion, metabolism, endocrine system, reproduction, and lactation. Lec/lab.

VMB 719. VETERINARY PHYSIOLOGY. (4 Credits)
Physiology of body fluids, excretion, respiration, acid-base balance, blood, muscle, bone, cardiovascular system, digestion, metabolism, endocrine system, reproduction, and lactation. Lec/lab.

VMB 720. VETERINARY IMMUNOLOGY. (5 Credits)
Clinical and diagnostic aspects of immunological mechanisms, serological reactions, hypersensitivity, allergy, and disorders of the immune system. Lec/lab.

VMB 721. VETERINARY PATHOLOGY. (5 Credits)
Basic mechanisms and concepts relating to reaction of cells and tissues to disease, with emphasis on cellular and tissue degeneration, inflammatory reaction, circulatory disturbance and neoplasia. Lec/lab.

VMB 722. RESEARCH READING SKILLS FOR VETERINARY STUDENTS. (1 Credit)
Training in critical evaluation of biomedical and clinical research studies, and understanding of laboratory diagnostic methods.

VMB 723. VETERINARY LEADERSHIP: INCLUSION, REFLECTION, DEVELOPMENT. (1 Credit)
Focusing on diversity and inclusion, self-compassion, and effective interpersonal communication in relationship to fostering leadership in veterinary medicine. Graded P/N.
This course is repeatable for 10 credits.
VMB 726. PET BIRD AND SMALL MAMMAL MEDICINE AND SURGERY. (2 Credits)
Medicine and surgery of pet birds and small animals. Graded P/N.

VMB 727. ORNAMENTAL FISH MEDICINE. (2 Credits)
An introduction to the basic principles of ornamental fish medicine including basic husbandry, handling and clinical procedures. Graded P/N.

VMB 728. SPECIAL ANIMAL MEDICINE. (4 Credits)
Diagnosis, treatment, and management of special animals, including the common laboratory animals. This course is repeatable for 8 credits.

VMB 729. LAB ANIMAL/PRIMATE MEDICINE AND SURGERY. (3-12 Credits)
Designed to provide hands-on experience with a variety of laboratory animal species including primates, rodents, ungulates, fish, and reptiles. May be repeated up to 4 times for 3, 6, 9 or 12 credits per term. 12 credits maximum apply toward graduation. Graded P/N. This course is repeatable for 12 credits.

VMB 736. DIAGNOSTIC CLINICAL PATHOLOGY. (2 Credits)
One week clinical experience in clinical pathology, cytology, urinalysis, clinical chemistry interpretation and hematology. Lec/lab.

VMB 740. VETERINARY INTEGRATED PROBLEM SOLVING. (1 Credit)
The first of three 1-credit courses in problem solving and integration of clinical cases and basic sciences in the veterinary curriculum.

VMB 741. VETERINARY INTEGRATED PROBLEM SOLVING. (1 Credit)
The second of three 1-credit courses in problem solving and integration of clinical cases and basic sciences in the veterinary curriculum.

VMB 742. VETERINARY INTEGRATED PROBLEM SOLVING. (1 Credit)
The third of three 1-credit courses in problem solving and integration of clinical cases and basic sciences in the veterinary curriculum. Graded P/N.

VMB 743. VETERINARY INTEGRATED PROBLEM SOLVING. (1 Credit)
A course in problem solving and integration of clinical cases and basic sciences in the veterinary curriculum. Students learn through interaction with their peers and with independent study outside of class. Graded P/N. This course is repeatable for 4 credits.

VMB 744. VETERINARY INTEGRATED PROBLEM SOLVING. (1 Credit)
A course in problem solving and integration of clinical cases and basic sciences in the veterinary curriculum. Students learn through interaction with their peers and with independent study outside of class. Graded P/N.

VMB 745. COMMUNICATIONS FOR VETERINARIANS. (1 Credit)
Communications and problem solving for the third-year veterinary student. Graded P/N.

VMB 749. WILDLIFE SAFARI. (2 Credits)
Clinical training in the care of exotic and zoo animal species. Graded P/N.

VMB 750. SYSTEMIC PATHOLOGY I. (4 Credits)
Examines the principles of system and organ responses to injury and the consequent effects of these changes on the host.

VMB 751. SYSTEMIC PATHOLOGY II. (5 Credits)
Examines the principles of system and organ responses to injury and the consequent effects of these changes on the host.

VMB 753. VETERINARY VIROLOGY. (4 Credits)
Virology for the professional DVM student.

VMB 756. ADVANCED CLINICAL PATHOLOGY. (1 Credit)
One-week rotation in advanced clinical pathology: cytology, hematology and clinical chemistry interpretation. Graded P/N. Prerequisites: VMB 736 with C or better

VMB 759. VETERINARY BACTERIOLOGY AND MYCOLOGY. (5 Credits)
Bacteriology and mycology for the professional DVM student.

VMB 760. VETERINARY PARASITOLOGY. (5 Credits)
A study of the parasitic diseases of domestic animals with an emphasis on diagnosis and treatment. Fundamentals in host-parasite interactions, taxonomy and life cycle strategies are covered.

VMB 761. VETERINARY PHARMACOLOGY. (2 Credits)
Fundamentals of pharmacology as related to veterinary medicine presented in a systems-oriented approach with drug therapy in domestic animals.

VMB 762. VETERINARY PHARMACOLOGY II. (4 Credits)
Fundamentals of pharmacology as related to veterinary medicine presented in a systems-oriented approach with drug therapy in domestic animals.

VMB 763. VETERINARY CLINICAL PATHOLOGY. (4 Credits)
Clinical pathology for the professional DVM student.

VMB 765. VETERINARY TOXICOLOGY. (4 Credits)
A study of toxic agents, mechanisms of action, toxicosis and treatments, especially as related to domestic and wild animals, with principles of toxicity testing, clinical diagnosis, and identification of poisonous plants. Lec/lab.

VMB 766. EPIDEMIOLOGY AND PUBLIC HEALTH. (3 Credits)
Examination of the application of epidemiology to the field of veterinary medicine and the study of important veterinary public health issues.

VMB 767. VETERINARY EPIDEMIOLOGY. (3 Credits)
Examines factors determining the frequency and distribution of diseases in a defined population of animals for the purpose of establishing programs to prevent and control their development and spread in this population.

VMB 768. BASIC HISTOPATHOLOGY. (1 Credit)
A rotation in histopathology at the Veterinary Diagnostic Laboratory. Emphasis is placed on case evaluation, diagnosis and report writing of biopsies of all species. Graded P/N. Prerequisites: VMB 751 with C or better

VMB 769. ANIMAL GENOMICS. (1 Credit)
Discussion about the dog and cow genomes, susceptibility to diseases, and the possibilities and techniques for treatment of medical conditions by gene transfer and modification.

VMB 772. INTERNATIONAL VETERINARY MEDICINE. (2 Credits)
Veterinary students work with veterinarians and domestic animals in international settings. Graded P/N. This course is repeatable for 4 credits.

VMB 774. LABORATORY ANIMAL MEDICINE. (6 Credits)
Clinical experience related to diagnosis, treatment, and management of laboratory animals. Graded P/N.

VMB 786. ADVANCED HISTOPATHOLOGY. (2 Credits)
A rotation in histopathology at the Veterinary Diagnostic Laboratory. Emphasis is placed on case evaluation, diagnosis and report writing of biopsies of all species.

VMB 795. DIAGNOSTIC SERVICES. (2 Credits)
Students will perform service duty in the necropsy area of the Veterinary Diagnostic Laboratory and will perform necropsies on delivered specimens. Other activities.
Veterinary Medicine Clinical

**VMC 501. RESEARCH. (1-16 Credits)**
Graded P/N.
This course is repeatable for 16 credits.

**VMC 503. THESIS. (1-12 Credits)**
This course is repeatable for 999 credits.

**VMC 505. READING AND CONFERENCE. (1-16 Credits)**
Graded P/N.
This course is repeatable for 16 credits.

**VMC 507. SEMINAR. (1-16 Credits)**
Graded P/N.
This course is repeatable for 16 credits.

**VMC 509. TEACHING PRACTICUM FOR VETERINARY PROFESSIONAL CURRICULUM. (1-6 Credits)**
Provides veterinary specialty residents and graduate students a mentored experience in teaching of veterinary medical students. Experience can be gained with teaching of lecture and/or laboratory courses.
This course is repeatable for 6 credits.

**VMC 601. RESEARCH. (1-16 Credits)**
Graded P/N.
This course is repeatable for 16 credits.

**VMC 603. THESIS. (1-16 Credits)**
This course is repeatable for 999 credits.

**VMC 605. READING AND CONFERENCE. (1-16 Credits)**
This course is repeatable for 16 credits.

**VMC 606. PROJECTS. (1-16 Credits)**
Graded P/N.
This course is repeatable for 16 credits.

**VMC 607. SEMINAR. (1-16 Credits)**
One-credit section; VMC 607 Sect. 1. Graded P/N.
This course is repeatable for 16 credits.

**VMC 632. POSTGRADUATE MEDICINE. (3-7 Credits)**
An interactive, practical course on the role of scholarship in clinical medicine, including techniques to develop and conduct research in a clinical setting.
This course is repeatable for 16 credits.

**VMC 634. POSTGRADUATE SURGERY. (3-7 Credits)**
An interactive, practical course on the role of scholarship in clinical surgery, including techniques to develop and conduct research in a clinical setting.
This course is repeatable for 16 credits.

**VMC 637. POSTGRADUATE CARDIOLOGY. (3-7 Credits)**
An interactive, practical course on the role of scholarship in clinical cardiology, including techniques to develop and conduct research in a clinical setting.
This course is repeatable for 16 credits.

**VMC 651. SELECTED TOPICS IN VETERINARY MEDICINE. (3 Credits)**
Topics vary; check Schedule of Classes for particular topics.
Recommended: Graduate standing and instructor approval required.

**VMC 680. VETERINARY MEDICAL PRECEPTORSHIP. (1-16 Credits)**
Clinical experience in veterinary medicine for students in the combined DVM-MPH program. Graded P/N.
This course is repeatable for 16 credits.

**VMC 682. TOPICS IN INTERNAL MEDICINE. (2-4 Credits)**
In-depth investigation of important topics in physiology, pathophysiology, treatment, diagnosis, and other aspects of internal medicine through investigation of primary literature and recent reviews.
This course is repeatable for 16 credits.

**VMC 684. TOPICS IN SURGERY. (2-4 Credits)**
In-depth investigation of important topics in physiology, pathophysiology, treatment, diagnosis, and other aspects of surgery through investigation of primary literature and recent reviews.
This course is repeatable for 16 credits.

**VMC 701. RESEARCH. (1-16 Credits)**
This course is repeatable for 16 credits.

**VMC 705. READING AND CONFERENCE. (1-16 Credits)**
This course is repeatable for 16 credits.

**VMC 706. PROJECTS. (1-16 Credits)**
This course is repeatable for 16 credits.

**VMC 711. CLINICAL CARDIOLOGY. (1-4 Credits)**
A one-week clinical elective rotation in cardiology at the Veterinary Teaching Hospital. May be repeated up to 4 times, two weeks or more is encouraged. Fourth-year standing in Veterinary Medicine required.
This course is repeatable for 4 credits.

**VMC 712. CLINICAL ONCOLOGY. (1-4 Credits)**
A one-week clinical elective rotation in clinical oncology at the Veterinary Teaching Hospital. May be repeated up to 4 times, two weeks or more is encouraged. Fourth-year standing in Veterinary Medicine required.
Prerequisites: VMC 778 with C or better
This course is repeatable for 4 credits.

**VMC 714. SMALL ANIMAL DENTISTRY. (1 Credit)**
A clinical course designed to provide students with hands-on training in diagnosis, treatment and prophylaxis of dental diseases of dogs and cats.

**VMC 715. CASE STUDIES IN SMALL ANIMAL MEDICINE I. (1 Credit)**
A case-based course involving diseases and conditions of the endocrine, gastrointestinal and hepatobiliary systems as well as neoplastic and infectious diseases of small animals.

**VMC 716. CASE STUDIES IN SMALL ANIMAL MEDICINE II. (1 Credit)**
A case-based course involving diseases and conditions of the cardiovascular, respiratory and urogenital systems as well as emergent diseases and conditions.

**VMC 717. CASE STUDIES IN SMALL ANIMAL MEDICINE III. (1 Credit)**
A case-based course involving diseases and conditions of the dermatologic, neurologic, ophthalmologic, and hemolympathic systems.

**VMC 718. SMALL ANIMAL PREVENTIVE MEDICINE. (2 Credits)**
Introductory course to basic concepts in small animal preventive medicine including vaccine immunology, vaccine strategies, internal/external parasite control, nutrition in disease prevention, and wellness programs for dogs and cats.

**VMC 719. CLINICAL CARDIOLOGY I. (2 Credits)**
Hands-on practical experience in a clinical setting in taking a clinical history, performing a cardiovascular physical examinations, recording electrocardiograms, interpreting thoracic radiographs and echocardiograms, creating problem lists, compiling lists of differential diagnosis, formulating diagnostic and therapeutic plans, discussing treatment options, generating medical records, and discharging patients.

**VMC 720. VETERINARY CLINICAL NUTRITION. (2 Credits)**
To examine the nutritional needs of many species of veterinary importance. Emphasis is placed on designing feeding programs to optimize health and animal performance.
VMC 721. SMALL ANIMAL CLINICAL NUTRITION. (1 Credit)
Introduction to the concepts of small animal clinical nutrition and is
designed for the third-year veterinary student.

VMC 723. ADVANCED FELINE MEDICINE. (2 Credits)
A one-week elective for senior students in the DVM curriculum. The
course emphasizes aspects of internal medicine specific to the domestic
cat. Graded P/N.

VMC 724. LARGE ANIMAL SURGERY. (6 Credits)
Selected surgical techniques and procedures related to equine and food
animal species.

VMC 725. PRINCIPLES OF SURGERY. (4 Credits)
A basic course in the principles and techniques of surgery for the
professional veterinary student. Graded P/N.

VMC 726. SMALL ANIMAL THERIOGENOLOGY. (1 Credit)
Advanced clinical experience in small animal (canine) reproduction.
Graded P/N.
Prerequisites: VMC 783 with C or better

VMC 727. ADVANCED SMALL ANIMAL SURGERY. (2 Credits)
One-week of additional lectures and laboratories to improve surgical skills
and acquire more advanced knowledge of specific surgical conditions.
Lec/lab. Graded P/N.

VMC 729. CLINICAL THERIOGENOLOGY. (1 Credit)
Practical and theoretical training in reproductive management and
disorders in all species; routine diagnostic and treatment procedures;
clinical rounds.
This course is repeatable for 3 credits.

VMC 731. SMALL ANIMAL EMERGENCY CARE-DOVE LEWIS. (3 Credits)
A two-week clinical rotation at the Dove Lewis Memorial Emergency Clinic
in Portland, OR.

VMC 732. CLINICAL LARGE ANIMAL MEDICINE I. (3,6 Credits)
Clinical medicine training in diseases of food animals and horses; clinic
rounds and diagnostic procedures.
This course is repeatable for 24 credits.

VMC 734. CLINICAL LARGE ANIMAL SURGERY I. (3,6 Credits)
Clinical surgery, treatment, and care of food animals and horses; clinical
rounds; training in surgery, lameness, and diagnostic procedures. Lec/lab.
This course is repeatable for 24 credits.

VMC 735. RURAL VETERINARY PRACTICE I. (3,6 Credits)
Rural practice training in diseases of food animals and horses. Lec/lab.
This course is repeatable for 6 credits.

VMC 737. VETERINARY ANESTHESIOLOGY. (4 Credits)
A three-week rotation in veterinary anesthesia utilizing patients
presented to the veterinary teaching hospital.

VMC 738. INTRODUCTION TO ANIMAL CARE. (3 Credits)
Feeding, housing, breeding and marketing systems related to animal care.
This course is repeatable for 6 credits.

VMC 739. VETERINARY MEDICAL ETHICS. (1 Credit)
Introduction of ethics in veterinary medicine, with specific attention
to ethical theories, ethical decision making, moral status of animals,
professional ethics, and practice issues.

VMC 740. SHEEP AND GOAT MEDICINE AND SURGERY. (3 Credits)
Discussions of economically important sheep and goat diseases,
practical surgeries, and a review of nutrition and husbandry. Graded P/N.

VMC 741. LARGE ANIMAL GI SURGERY. (2 Credits)
A one-week course for 4th year veterinary students, with particular
interest in gastrointestinal surgery. Graded P/N.

VMC 742. CAMELID MEDICINE AND SURGERY. (4 Credits)
Designed to give students an in-depth introduction to camelid health care
via hands-on work, lectures, and discussion sections. Graded P/N.

VMC 743. ADVANCED EQUINE REPRODUCTION. (3 Credits)
A two-week course in advanced clinical experience in equine
reproduction. Graded P/N.
Recommended: Third-year standing in veterinary medicine recommended.

VMC 744. ADVANCED LAMENESS IN EQUINE. (3 Credits)
Application of anatomy, lameness examination, nerve and joint
anesthesia, diagnostic radiology, ultrasound and nuclear scintigraphy to
diagnosis of lameness in horses. Graded P/N.

VMC 745. PRACTICE MANAGEMENT. (2 Credits)
A course in basic personal and business finances, career skills, and legal
aspects of veterinary practice. Graded P/N.

VMC 747. VETERINARY ANESTHESIOLOGY II. (3 Credits)
An additional two-week clinical rotation in veterinary anesthesia utilizing patients presented to the Veterinary Teaching Hospital. Graded P/N.

VMC 748. EQUINE DENTISTRY. (2 Credits)
Utilizing modern, motorized equipment, cadaver specimens, and live
hospital and client horses, students will learn and perform modern
methods of equine dental prophylaxis and treatment. Graded P/N.

VMC 749. CLINICAL IMAGING II. (3 Credits)
Advanced clinical course for 4th-year veterinary students in which
they will assume additional responsibility for performing common
radiographic procedures. Graded P/N.

VMC 750. EQUINE CLINICAL NUTRITION. (1 Credit)
A one-week course for veterinary students focusing on equine nutrition
that can be used in veterinary practice. Graded P/N.

VMC 751. RUMINANT NUTRITION. (2 Credits)
An advanced course in clinical ruminant nutrition dealing with nutritional
problems of ruminants that might be encountered by a practicing
veterinarian. Graded P/N.

VMC 752. CLINICAL LARGE ANIMAL MEDICINE II. (3-6 Credits)
Additional clinical medicine training. Graded P/N.
Prerequisites: VMC 732 with C or better
This course is repeatable for 6 credits.

VMC 753. CLINICAL ONCOLOGY I. (2 Credits)
Teaches students a realistic approach to the diagnosis and treatment of
pets with cancer. Students will participate in rounds, case management
and medical records keeping.

VMC 754. CLINICAL LARGE ANIMAL SURGERY II. (3,6 Credits)
Additional clinical surgery training. Graded P/N.
Prerequisites: VMC 734 with C or better
This course is repeatable for 6 credits.

VMC 755. RURAL VETERINARY PRACTICE II. (3-6 Credits)
One additional rural practice training. Graded P/N.
Prerequisites: VMC 735 with C or better
This course is repeatable for 6 credits.

VMC 757. SMALL ANIMAL SURGERY. (6 Credits)
Small animal medicine and surgical techniques and procedures. Graded P/N.
Recommended: Fourth-year professional standing.
VMC 758. CATTLE PRODUCTION MEDICINE. (3 Credits)
Clinical application of production medicine practices to dairy and beef cattle practice. Graded P/N.
Prerequisites: VMC 735 with C or better

VMC 759. LARGE ANIMAL PALPATION. (1 Credit)
A laboratory for additional experience in rectal palpation of large animals, for third-year veterinary students. Graded P/N.

VMC 763. ADVANCED CLINICAL CARDIOLOGY. (1 Credit)
An elective course for junior veterinary students detailing diagnosis and management of the common congenital and acquired cardiac diseases of domestic animals.

VMC 764. DIAGNOSTIC IMAGING. (4 Credits)
A lecture and laboratory course in diagnostic imaging covering physics or radiography and ultrasonography, radiation safety and image interpretation for small and large animals, presented by body systems.

VMC 765. ADVANCED CLINICAL RADIOLOGY. (1 Credit)
An elective advanced radiology case-based course for Year 3 veterinary medicine students that focuses on radiographic findings of commonly encountered clinical disease.

VMC 766. CLINICAL SMALL ANIMAL ULTRASONOGRAPHY. (2 Credits)
A 1-week overview of clinical small animal ultrasonography with particular emphasis on material relevant to a general or emergency practitioner. Students will be able to perform a FAST scan to identify peritoneal fluid. Students will listen to didactic lectures in the morning with practical sessions in the afternoon. At the end of the week, pairs of students will make a short presentation based on a literature search on a topic of interest.

VMC 767. SMALL ANIMAL ABDOMINAL ULTRASOUND. (3 Credits)
Introductory course to provides instruction in veterinary ultrasound with an emphasis on image optimization, evaluation of the abdomen, description and interpretation of imaging findings in dogs and cats. This course is intended for students with a background in common small animal disease and imaging anatomy.

VMC 768. PRINCIPLES OF ANESTHESIA. (4 Credits)
A basic course in the principles and techniques of surgery and anesthesia for the professional veterinary student. Lec/lab.

VMC 769. GENERAL MEDICINE. (2 Credits)
An introduction to medicine with a discussion of the principles of medicine that would be applicable to all species. Physical examination, clinical diagnosis, pathophysiology of signs of disease in domestic animals, therapeutic principles and diagnostic procedures.

VMC 770. LARGE ANIMAL MEDICINE I. (4 Credits)
The first of three courses in large animal medicine for third-year professional veterinary students covering diagnosis and treatment of domestic large animals.

VMC 771. LARGE ANIMAL MEDICINE II. (4 Credits)
Diagnosis, treatment and control of diseases of large domestic animals, specifically gastrointestinal, hepatobiliary diseases, weight loss, and introduction to production medicine, and some swine diseases.

VMC 772. LARGE ANIMAL MEDICINE III. (4 Credits)
Diagnosis, treatment and control of diseases of large domestic animals, specifically central nervous system, mastitis, musculoskeletal, sudden death, skin, and some swine diseases.

VMC 773. MEDICINE LABORATORY I. (1 Credit)
Laboratory experience for third-year veterinary students concurrent with the large and small animal medicine courses.

VMC 774. MEDICINE LABORATORY II. (1 Credit)
Laboratory experience for third-year veterinary students concurrent with the large and small animal medicine courses.

VMC 775. CLINICAL SMALL ANIMAL MEDICINE II. (5 Credits)
A course for veterinary students describing major topics of small animal internal medicine, using both a systems-based approach and a problem-based approach.

VMC 776. SMALL ANIMAL MEDICINE III. (5 Credits)
A course for veterinary students describing major topics of small animal internal medicine, using both a systems-based approach and a problem-based approach.

VMC 777. SMALL ANIMAL PRACTICE. (3 Credits)
Additional clinical training in primary care pet practice at a Banfield Pet Hospital. Graded P/N.
This course is repeatable for 6 credits.

VMC 780. VETERINARY MEDICAL PRECEPTORSHIP. (1-16 Credits)
Theory of practice of veterinary medicine in a non-university situation. Graded P/N.
This course is repeatable for 16 credits.

VMC 781. SEMINAR IN VETERINARY MEDICINE. (1-16 Credits)
Seminars and case discussions on selected topics by students, staff, and others. Graded P/N.
This course is repeatable for 16 credits.

VMC 782. EMERGENCY CARE. (1 Credit)
One-week rotation in the Veterinary Teaching Hospital during non-regular hours. Practice and instruction in caring for critically ill patients.

VMC 783. THERIOGENOLOGY I. (4 Credits)
To present the clinical applications of reproductive physiology, anatomy, embryoology, pathology and microbiology in domesticated animals.

VMC 784. MEDICINE LABORATORY II. (1 Credit)
Laboratory experience for third-year veterinary students concurrent with the large and small animal medicine courses.

VMC 785. SMALL ANIMAL SURGERY. (7 Credits)
A lecture and laboratory course covering the diagnosis, operative methods, and aftercare of common small animal surgical conditions.

VMC 786. ANIMAL BEHAVIOR. (1 Credit)
Diagnosis and treatment of feline, canine and equine problem behaviors including aggression, anxiety, house-soiling and compulsive behaviors.

VMC 787. 3RD YEAR CLINICS. (1 Credit)
An introductory clinical experience for third-year veterinary students.

VMC 788. BUSINESS APPLICATIONS IN PRIVATE SMALL ANIMAL PRACTICE. (1 Credit)
A hands-on elective course exploring the business of small animal general practice in a case-based approach.
This course is repeatable for 2 credits.

VMC 789. PET PRACTICE. (3 Credits)
One-week elective encompassing basic exercise physiology, sports-related injuries, injury rehabilitation, training and nutrition of equine athletes. Graded P/N.

VMC 790. VETERINARY MEDICAL PRECEPTORSHIP. (1-16 Credits)
Theory of practice of veterinary medicine in a non-university situation. Graded P/N.
This course is repeatable for 16 credits.

VMC 791. SEMINAR IN VETERINARY MEDICINE. (1-16 Credits)
Seminars and case discussions on selected topics by students, staff, and others. Graded P/N.
This course is repeatable for 16 credits.
VMC 790. CLINICAL EXPERIENCE. (1-16 Credits)
One- to four-week periods. Section 1: Large Animal Clinical Experience/Topics (1-16). Section 2: Small Animal Clinical Experience/Topics (1-16). Section 3: Mixed Animal Clinical Experience/Topics (1-16). Section 4: Small Animal Private Practice (1-16). Section 5: Special Studies (1-16). Some sections graded P/N. Lec/lab. This course is repeatable for 48 credits.

VMC 791. CLINICAL SMALL ANIMAL MEDICINE. (3,6 Credits)
A clinical rotation in small animal internal medicine at the Veterinary Teaching Hospital. Emphasis will be placed on patient evaluation, diagnosis and treatment of diseases of dogs and cats. This course is repeatable for 6 credits.

VMC 792. CLINICAL SMALL ANIMAL MEDICINE II. (3-6 Credits)
A two-week, three-credit clinical elective rotation in small animal internal medicine at the Veterinary Teaching Hospital. Emphasis will be placed on patient evaluation, diagnosis and treatment of diseases of dogs and cats. This course is repeatable for 6 credits.

VMC 793. CLINICAL SMALL ANIMAL SURGERY. (3,6 Credits)
Clinical training in small animal surgery in the Veterinary Teaching Hospital. Prerequisites: VMC 725 with C or better and VMC 785 [C] This course is repeatable for 6 credits.

VMC 794. OHS SMALL ANIMAL PRIMARY CARE. (4 Credits)
Three-week rotation at OHS to gain experience with an emphasis on surgery, medical case workup, exam room protocol and behavior basics.

VMC 796. CLINICAL IMAGING. (3 Credits)
A clinical course for 4th-year veterinary students in which they will assume primary responsibility for performing common radiographic procedures.

VMC 797. SMALL ANIMAL CRITICAL CARE AND HOSPITAL SERVICE ROTATION. (1 Credit)
A one-week clinical rotation in small animal critical care managing small animal cases in the intensive care unit at the Veterinary Teaching Hospital.

VMC 798. CLINICAL SMALL ANIMAL SURGERY II. (3-6 Credits)
Clinical training in small animal surgery in the College of Veterinary Medicine, Lois B. Acheson Veterinary Teaching Hospital. This course is repeatable for 6 credits.

VMC 799. SPECIAL TOPICS. (1-16 Credits)
This course is repeatable for 16 credits.