VETERINARY MEDICINE BIOMEDICAL (VMB)

VMB 110. PREVETERINARY MEDICINE. (1 Credit)
Introduction to the profession's role in society. Graded P/N.
Equivalent to: VM 110

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 401. RESEARCH AND SCHOLARSHIP. (1-16 Credits)
This course is repeatable for 16 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

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.
Equivalent to: VM 501
This course is repeatable for 16 credits.

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

VMB 504. WRITING AND CONFERENCE (NON-THESIS). (1-9 Credits)
This course is repeatable for 9 credits.

VMB 505. READING AND CONFERENCE. (1-16 Credits)
Equivalent to: VM 505
This course is repeatable for 16 credits.

VMB 507. SEMINAR. (1-16 Credits)
One-credit section; VMB 507 Sect. 1. Graded P/N.
Equivalent to: VM 507
This course is repeatable for 16 credits.

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

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

VMB 604. WRITING AND CONFERENCE (NON-THESIS). (1-9 Credits)
This course is repeatable for 9 credits.

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

VMB 606. PROJECTS. (1-16 Credits)
Graded P/N.
Equivalent to: VM 606
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.
Equivalent to: VM 611

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

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

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

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

VMB 616. VETERINARY NEUROSCIENCES. (4 Credits)
Structural and functional relationships of the nervous system and organs of special sense with emphasis on general clinical application.

VMB 620. VETERINARY IMMUNOLOGY. (5 Credits)
Clinical and diagnostic aspects of immunological mechanisms, serological reactions; hypersensitivity, allergy, and disorders of the immune system.
Equivalent to: VM 620
VM 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.
Equivalent to: VM 621

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

VM 627. ORNAMENTAL FISH MEDICINE. (2 Credits)
An introduction to the basic principles of ornamental fish medicine including basic husbandry, handling and clinical procedures. This is a 1-week intensive course held at the Hatfield Marine Science Center in Newport, Oregon. Graded P/N.

VM 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.
Equivalent to: VM 630

VM 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.

VM 640. SEMINARS IN LABORATORY ANIMAL MEDICINE. (2 Credits)
Prepares students for careers in laboratory animal medicine. Provides a review of medical conditions, diagnosis and treatment of research animals.

VM 641. 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.

VM 642. 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.

VM 651. SELECTED TOPICS IN VETERINARY MEDICINE. (3 Credits)
Topics vary; check Schedule of Classes for particular topics.
Equivalent to: VM 651

VM 652. CANCER SYSTEMS BIOLOGY. (3 Credits)
Overview of systems biology approaches that are being used to study cancer, with an emphasis on omics techniques and fundamental mechanisms in the origination and progression of cancer. Discussion-based, with each class session focused on a contemporary research article in the field of cancer systems biology.

VM 653. VETERINARY VIROLOGY. (4 Credits)
Virology for the professional and graduate student.

VM 659. VETERINARY BACTERIOLOGY AND MYCOLOGY. (5 Credits)
Veterinary bacteriology and mycology for the veterinary graduate student.

VM 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.

VM 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.

VM 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.

VM 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.

VM 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.

VM 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.

VM 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.

VM 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.

VM 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

VM 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.

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

VM 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.

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

VM 701. RESEARCH. (1-16 Credits)
Equivalent to: VM 701
This course is repeatable for 16 credits.

VM 705. READING AND CONFERENCE. (1-16 Credits)
Equivalent to: VM 705
This course is repeatable for 16 credits.
VMB 706. PROJECTS. (1-16 Credits)
Equivalent to: VM 706
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.
Equivalent to: VM 709

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

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

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

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

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

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.
Equivalent to: VM 716

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.
Equivalent to: VM 717

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.
Equivalent to: VM 718

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.
Equivalent to: VM 719

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.
Equivalent to: VM 720

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.
Equivalent to: VM 721

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.
Equivalent to: VM 728
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.
Equivalent to: VM 736

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.
Equivalent to: VM 740

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.
Equivalent to: VM 741

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.
Equivalent to: VM 742

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.
Equivalent to: VM 744

This course is repeatable for 16 credits.
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.
Equivalent to: VM 7500

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.
Equivalent to: VM 751

VMB 753. VETERINARY VIROLOGY. (4 Credits)
Virology for the professional DVM student.
Equivalent to: VM 753

VMB 755. 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 756. VETERINARY BACTERIOLOGY AND MYCOLOGY. (5 Credits)
Bacteriology and mycology for the professional DVM student.
Equivalent to: VM 759

VMB 759. 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.
Equivalent to: VM 760

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.
Equivalent to: VM 761

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.
Equivalent to: VM 762

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

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.
Equivalent to: VM 765

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.
Equivalent to: VM 766

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.
Equivalent to: VM 767

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.
Equivalent to: VM 774

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.