



Virginia-Maryland
College of *Veterinary Medicine*




2021-2022 / Course Catalog

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Our Vision, Mission & Core Values



To be international leaders in veterinary medicine, biomedical sciences, and public health rooted in service, fueled by a passion to improve health, and focused on innovation and education.

The mission of this college is to protect and enhance animal, human, and environmental health and welfare through:

The education of a diverse population of professional, post-graduate, and undergraduate students in preparation for careers in the broad areas of veterinary medicine, biomedical sciences, and public health;

The creation, dissemination, and application of new medical and public health knowledge via discovery, publication, education, and engagement;

Provision of excellent and compassionate clinical service to animals, animal owners, and producers in Virginia, Maryland, and the surrounding region.

Education is at the core of our mission. We will create and maintain an environment that allows all members to learn and grow to their full potential.

Human resources are our greatest strength. We promote personal and professional development through a culture that recognizes and rewards contributions and achievements.

We respect and esteem the human/animal bond and the dignity of all animals and people. We offer preventive, diagnostic, and therapeutic services within a compassionate environment.

We seek to relieve suffering and promote the well-being of both animals and people through the responsible conduct of clinical, biomedical, and public health research.

We are an organization that operates with public funds to serve the public good. We will prudently and responsibly steward our human, fiscal, and natural resources.

We adhere to the principles of trust, respect, and courtesy in all things.

AVMA COE Accreditation

The college is fully accredited by the American Veterinary Medical Association's Council of Education (AVMA COE). The last AVMA COE site visit was in 2014 and the next visit is scheduled for 2021.



The accreditation process involves a comprehensive review of the VMCVM DVM program. As part of this process, an accreditation team conducts a site visit in which they evaluate the college and its compliance with the COE required standards.

For more information visit:

<http://www.vetmed.vt.edu/about/accreditation.asp>

SACSCOC

Virginia Polytechnic Institute and State Institution (Virginia Tech) is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award associate, baccalaureate, masters, educational specialist, and doctorate degrees. Degree-granting institutions also may offer credentials such as certificates and diplomas at approved degree levels. Questions about the accreditation of Virginia Tech may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097, by calling (404) 679-4500, or by using information available on SACSCOC's website (www.sacscoc.org).

First Year Fall Courses

The first two years are focused on developing core knowledge, skills, and attributes across the species through integration of the basic and clinical sciences.



The Normal Animal - VM 8164 Credits 10

This course will study normal individual behavior, social behavior, and management of domestic species in addition to normal domestic animal body structure and function, including skeletal and neuromuscular organization, along with body cavities and gross and radiographic anatomy of structures within those cavities. Additionally, foundational knowledge of cell structure, differentiation, and physiology, as well as pharmaceuticals that influence cellular physiology, will be highlighted and introduction to clinical skills required for veterinarians.

Dealing with Threats - VM 8174 Credits 10

This course will study bacterial, viral, parasitological, and toxicological agents of disease in domestic animals, as well as mechanisms of disease production. Also covered are immunological responses to infectious agents and immune-mediated diseases, in addition to pathological and clinic-pathological responses of domestic species to insult. Principles of epidemiological evaluation, diagnosis, treatment, control, and prevention of common threats to domestic species are also highlighted.

Becoming a Veterinary Professional I - VM 8665 Credits 2

This course stream will be comprised of three semesters of coursework, which aims to assist students in their personal and professional development throughout the year 1-2 curriculum. The stream comprises a wide range of professional competencies that are not addressed specifically in the scientific curriculum, including animal welfare, clinical communication skills, career opportunities within veterinary medicine, history of the profession, legislation, personal finance, personal skills, practice management, professional behavior, a reflective approach to personal and professional development, clinical reasoning, and other veterinary issues. Each of these topics will be revisited over the next two years with more complex material introduced each semester.

First Year Spring Courses

Moving - VM 8824 Credits 9

In this course you will be provided core knowledge, skills and attributes of a veterinary professional as they pertain to the musculoskeletal system. This course will cover common diseases of domestic animals that limit the functions of the musculoskeletal system. Other topics that are discussed are the diagnosis, treatment and control of these diseases, the side effects of pain, as well as pain management.

Sensing & Seeing - VM 8110 Credits 10

This course integrates the fundamental principles of anatomy, physiology and microanatomy of the nervous, ocular, and dermatological systems with common clinical diseases that limit the function of these systems in domestic species. Students will study the treatment and control of diseases affecting these systems, as well as, being introduced to the fundamental principles of anesthesia.

Becoming a Veterinary Professional II - VM 8666 Credits 2

This course stream will be comprised of three semesters of coursework, which aims to assist students in their personal and professional development throughout the year 1-2 curriculum. The stream comprises a wide range of professional competencies that are not addressed specifically in the scientific curriculum, including animal welfare, clinical communication skills, career opportunities within veterinary medicine, history of the profession, legislation, personal finance, personal skills, practice management, professional behavior, a reflective approach to personal and professional development, clinical reasoning, and other veterinary issues. Each of these topics will be revisited over the next two years with more complex material introduced each semester.



Second Year Fall Courses

Breathing & Circulating - VM 8564 Credits 10

This course is designed to study structure, function, and dysfunction of the cardiovascular, hemo-lymphatic, and respiratory systems; including gross, radiographic, and microscopic anatomy; pathogenesis, pathophysiology, diagnosis, treatment, and prevention of common diseases; and general anesthesia of veterinary patients.

Eating & Eliminating - VM 8584 Credits 10

In this course, students learn the physiologic processes involved in the consumption, digestion, metabolism, and excretion of nutrients, drugs, and toxins. These studies will include clinical signs and pathophysiology of disorders of consumptive, digestive, absorptive, metabolic, endocrine, and excretory processes. This course also teaches the adequacy of common diets to meet nutrient needs of animals in various stages of life.



First Clinical Teaching Time

At the end of the second year, students will enter clinics for the first time and participate in five clinical rotations over the summer.

The clinical curriculum consists of 5 three-week rotations during the summer immediately following spring semester of second year and 12 three-week rotations beginning fall semester prior to graduation. All students are required to successfully complete 7 core rotations and all track requirements specific to a selected track. Each student will have the opportunity to participate in elective clerkships (4 credits per clerkship).



Second Year Spring Courses

The Next Generation - VM 8194 Credits 9

This course will cover the anatomy, physiology, pharmacology and medical aspects associated with conception, embryonic and fetal development, gestation, delivery, and lactation. Other topics that will be covered are neonatal development, disorders and management.

Students will be given hands-on experience with surgical and medical management of fertility, including experience performing canine and feline ovariohysterectomy.

Healthy Populations - VM 8204 Credits 7

This course will focus on the principles of epidemiology, biosecurity, population dynamics, and preventive health management of populations. Since human and animal health interface within the environment, One

Health concepts will be utilized to prepare students to the role of veterinarians in the diagnosis and prevention of zoonotic conditions, food security, food safety, food defense, meat hygiene, antimicrobial usage and prevention of antimicrobial resistance. Surgical and medical management of fertility including canine ovariohysterectomy will continue from the previous course, the Next Generation.

Becoming a Veterinary Professional III - VM 8667 Credits 2

This course stream will be comprised of three semesters of coursework, which aims to assist students in their personal and professional development throughout the year 1-2 curriculum. The stream comprises a wide range of professional competencies that are not addressed specifically in the scientific curriculum, including animal welfare, clinical communication skills, career opportunities within veterinary medicine, history of the profession, legislation, personal finance, personal skills, practice management, professional behavior, a reflective approach to personal and professional development, clinical reasoning, and other veterinary issues. Each of these topics will be revisited over the next two years with more complex material introduced each semester.



Third Year Track Courses

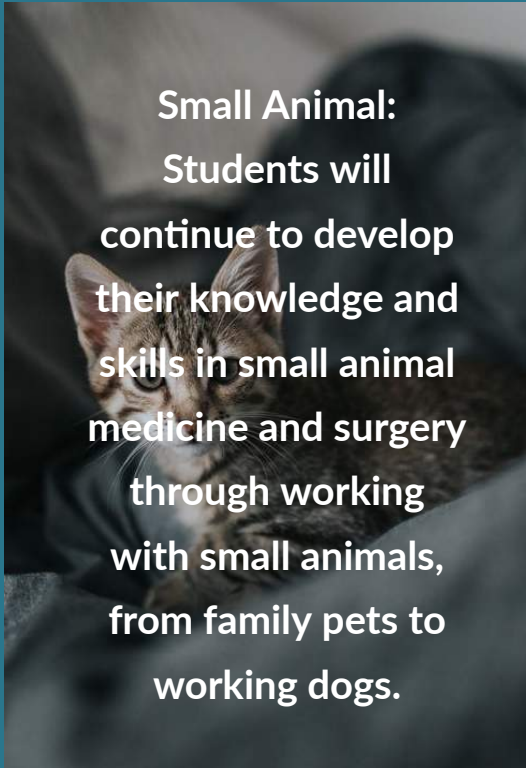
In the third year of the DVM program students return to the classroom and focus within an area of their interest through our five tracking options: Small Animal, Equine, Food Animal, Mixed Animal, and Public/Corporate.



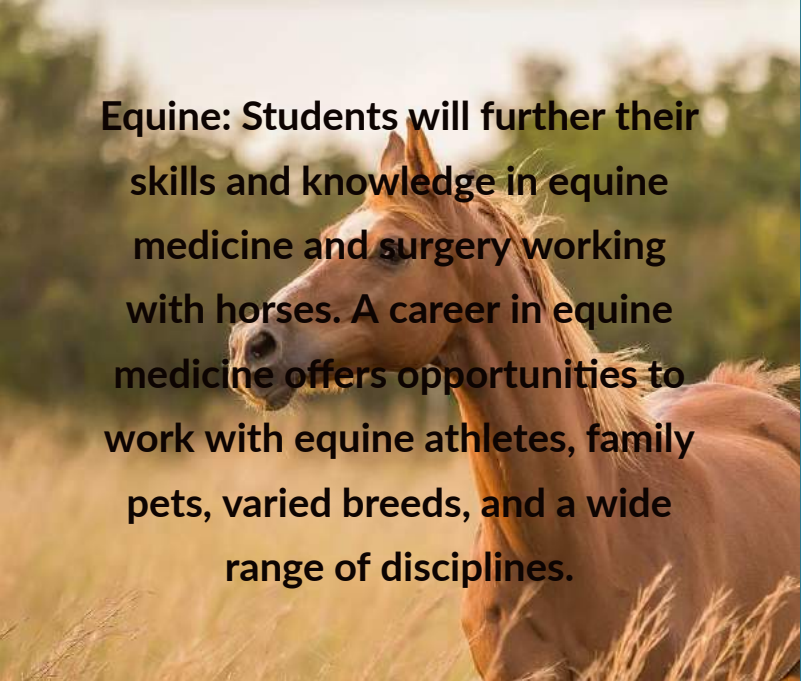
Food animal: Students in the food animal track gain additional pre-clinical and clinical skills and knowledge in food supply medicine, preparing them for roles as the nation's future food animal specialists.



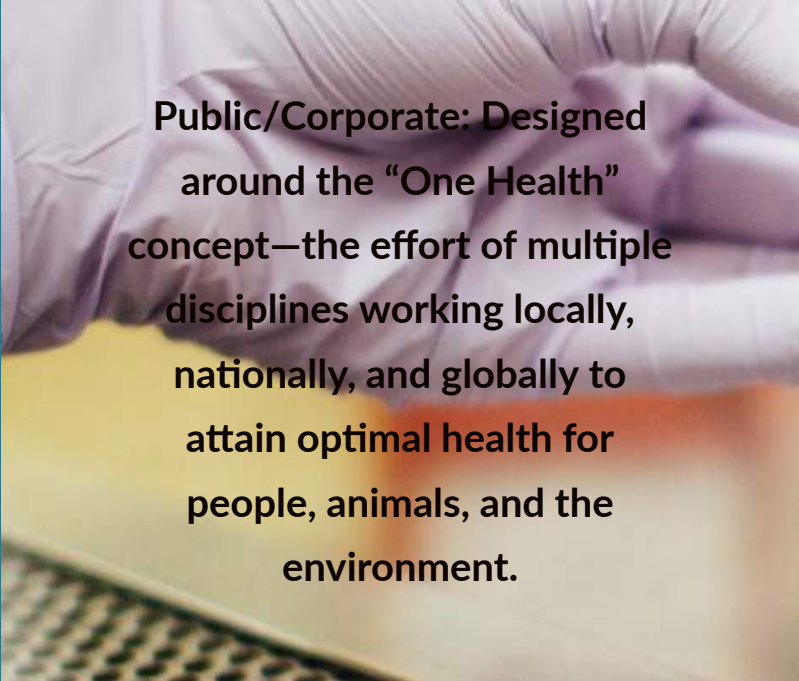
Mixed Animal: The mixed animal track provides ideal training for veterinarians who treat a variety of species, including companion, horses, production and exotics.



Small Animal: Students will continue to develop their knowledge and skills in small animal medicine and surgery through working with small animals, from family pets to working dogs.



Equine: Students will further their skills and knowledge in equine medicine and surgery working with horses. A career in equine medicine offers opportunities to work with equine athletes, family pets, varied breeds, and a wide range of disciplines.



Public/Corporate: Designed around the "One Health" concept—the effort of multiple disciplines working locally, nationally, and globally to attain optimal health for people, animals, and the environment.

Fall Track Courses

Small Animal Dentistry - VM 8914 Credits 2

Together with expanding on basic concepts of small animal dentistry introduced in the core curriculum, this course will introduce more advanced concepts applicable to the small animal general practitioner. It will prepare the student for common types of cases seen in a practice setting and introduce the surgical and other skills necessary for proper treatment of dental disorders.

Small Animal Ophthalmology & Neurology - VM 8894 Credit 1

This course will recognize or describe the clinical features associated with common problems affecting the ophthalmic and neurological systems of dogs and cats.

Small Animal Surgical Diseases & Techniques - VM 8294 Credits 2

Focusing on clinical presentations of common small animal surgical diseases, this course teaches normal anatomy and physiology to clinical disorders, principles of surgery, and complications of surgical procedures.

It includes selecting the most appropriate diagnostic testing to confirm or rule out surgical diseases and interpret test results.

Small Animal Theriogenology - VM 9254 Credit 1

This course deals with the normal reproductive function and management in dogs and cats. Diagnosis and management of reproductive diseases are considered. Neonatology will be covered in depth.

Fall Track Courses

EQ Clinical Practice: Breathing, Circulating & Moving (EQCPBCM)- VM 8680 Credits 2

This course presents current and in-depth information about diseases that affect horses of all ages, excluding the neonatal foal. Focuses on diseases of the musculoskeletal, respiratory and cardiac systems.

EQ Clinical Practice: Breathing, Circulating & Moving Lab - VM 8690 Credit 1

This laboratory-centered course will provide advanced training and experience in performing and interpreting techniques commonly used in equine practice. Specifically, the techniques learned and practiced in the course complement the material taught in EQCPBCM and Equine Problem Solving, which focuses on the musculoskeletal and respiratory systems.

EQ Problem Solving- VM 8524 Credits 2

This course will cover many of the common diseases and issues seen by practicing equine veterinarians.

EQ Podiatry - VM 8794 Credits 3

This three-credit course provides advanced training in equine podiatry for veterinary students intending to see horses as a significant part of their veterinary practice. Students will learn anatomy, physiology, distal limb biomechanics, and farriery as they relate to preventative foot healthcare and management of lameness conditions.

EQ Diagnostics Techniques for the Musculoskeletal & Respiratory Systems -VM 8724 Credit 1

This course is aligned with EQCPBCM lecture course and focuses on development of clinical techniques associated with diseases that affect the equine musculoskeletal, respiratory, and cardiovascular systems.

Fall Track Courses

Goat & Sheep Medicine - VM 9074 Credit 1

This course provides an overview of the health and management as well as the diseases of goats and sheep. In addition, production cycles, management concerns, routine preventative care, and management of traumatic, infectious, and toxic disease problems are covered.

Food Animal Theriogenology - VM 8574 Credit 1

With emphasis on clinical aspects of reproductive management, this course presents the practice of theriogenology in a food animal or mixed animal practice. The course will include reproductive management for herds of food animal species, including cattle, sheep, goats, and swine.

Food Animal Medicine & Surgery I - VM 8615 Credits 3

This course will provide practical information that a first-year graduate would need in order to be proficient in diagnosing, medically and surgically treating, and preventing the common conditions observed in an ambulatory-type food animal practice. This course will focus on individual animal medicine and surgery, rather than production medicine.

Food Animal Clinical Pharmacology - VM 8484 Credit 1

This course will examine in detail the unique aspects of the use of drugs in food animals. Through the use of case discussions, students will gain a better understanding of the Animal Medicinal Drug Use Clarification Act (AMDUCA), Veterinary Feed Directive (VFD), and treatment protocols

Food Animal Techniques - VM 8360 Credit 1

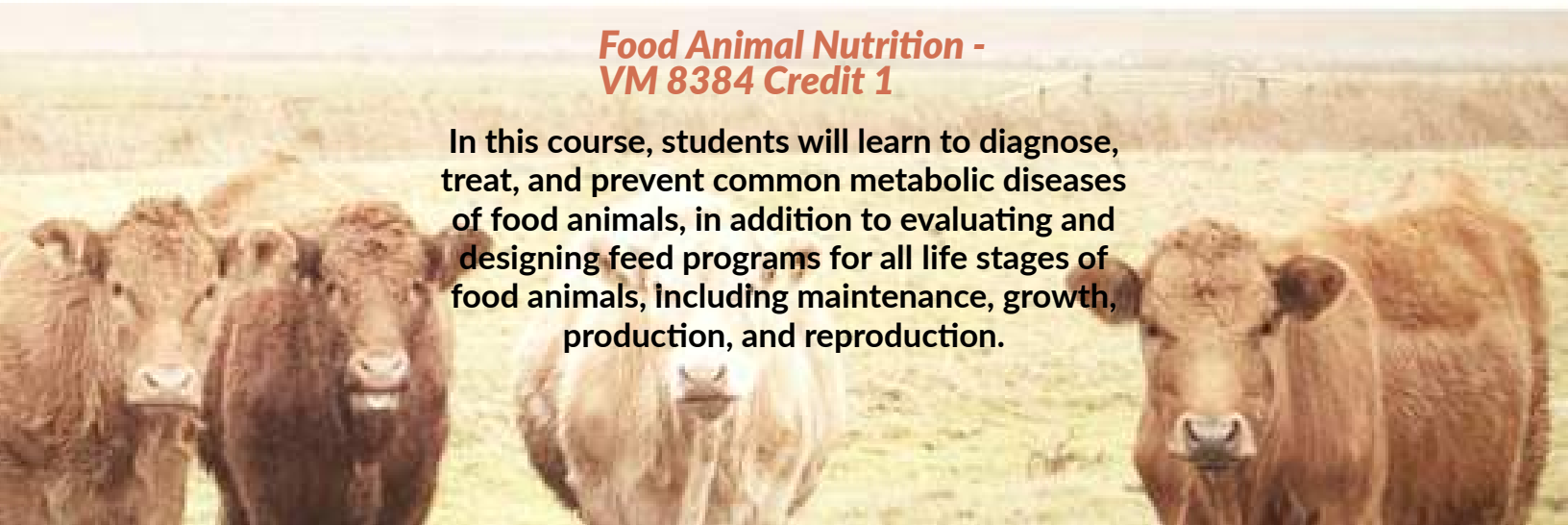
This course will cover cattle-handling, restraint techniques, beef quality assurance, physical examination, injections, castration, dehorning, diagnostic sampling, field necropsy, nerve blocks, tagging/implanting, and basic techniques for sheep and swine.

Food Reproduction Techniques VM 8834 Credit 1

This course presents the clinical practice of Theriogenology in a food animal or mixed animal practice. Emphasis is on developing transrectal palpation techniques in the non-pregnant cow. Other aspects of this course will focus on reproductive tract scoring in the heifer, semen handling and AI techniques, and bull breeding soundness examination. The course will consist of lectures and laboratories.

Food Animal Nutrition - VM 8384 Credit 1

In this course, students will learn to diagnose, treat, and prevent common metabolic diseases of food animals, in addition to evaluating and designing feed programs for all life stages of food animals, including maintenance, growth, production, and reproduction.



Fall Track Courses

Developing the Public Veterinary Practitioner - VM 8504 Credits 2

In this course, students will gain knowledge, skills, and abilities essential for the diverse field of Veterinary Public Practice. These competencies will be developed by discussion and investigation within public practice topic areas such as disease surveillance, prevention, and control; preparedness and response for infectious disease outbreaks and natural disasters; animal welfare; risk analysis; and international veterinary capacity building. Topics will be discussed within the context of state and federal government agencies, corporate/industry, and clinical institutions (e.g. zoos, animal laboratory facilities, animal shelters, etc.). Course material is delivered through lectures and in-class group activities/presentations.

Veterinarians in Public Policy - VM 8364 Credits 2

This course provides an overview of the formulation and implementation of public policy at the international, national, state, professional association (AVMA), and consumer level through legislation, regulation, guidance, and resolutions. In this course, students will examine the roles of science, law, politics, economics, societal values, and stakeholder influence in forging public policy. Students will also explore the moral and ethical dimensions of public policy making and participate in a role-playing exercise in situational ethics.

Beyond Private Practice: Veterinary Careers & Pathways - VM 8664 Credit 1

In this course, students will explore career opportunities in veterinary medicine outside of private clinical practice, with a focus on pathways towards determining and pursuing a successful and personally fulfilling career choice. Recent data about the motivations for veterinarians to change career paths will be presented and growth as a professional will be explored.



Spring Track Courses

Small Animal Oncology - VM 8714 Credits - 2

This course is a comprehensive study on the approach, pathophysiology, diagnosis, staging, and management of cancer in small animals.

Small Animal Emergency Medicine - VM 8604 Credits 2

This course provides current information on major aspects of small animal emergency medicine and critical care. Topics include management of shock, oxygenation, blood pressure management, and CPR as well as emergent treatment of systemic disease, traumatic injuries and toxicological emergencies. Techniques including bandaging, central line placement, centesis, and tracheostomy are discussed and performed in a laboratory setting.

Small Animal Medicine - VM 8214 Credits 3

This course will instruct students, in regards to specific disorders of the endocrine, gastrointestinal, hepatobiliary, hematologic, urinary, and respiratory systems of dogs and cats, to be able to describe the pathophysiological mechanisms, identify and associate abnormal clinical signs and physical examination findings, identify and formulate a list of medical problems, formulate a list of prioritized differential diagnoses for those problems, develop an appropriate diagnostic plan, analyze and interpret diagnostic test results, and design an appropriate therapeutic and monitoring plan.

Small Animal Nutrition - VM 8264 Credit - 1

The Small Animal Nutrition course is designed to develop day one veterinary competency in small animal nutrition. How should the healthy cat/dog be fed? How should the cat/dog with a nutrition-sensitive health condition be fed? After completing this course, students will be able to evaluate and design diets for cats/dogs of varying physiologic and pathophysiologic statuses.



Spring Track Courses

Special Topics in Equine Clinical Practice - VM 8670 Credits 2

This course presents current and in-depth information about diseases that affect horses of all ages, excluding the neonatal foal. Areas covered include anesthesiology, ophthalmology, neurology, gastroenterology, nephrology, cutaneous neoplasia and wound healing, castration, and preventive medicine.

Special Topics in Equine Clinical Practice Lab - VM 8030 Credit 1

This course is aligned with the fall Equine Clinical Practice: Breathing, Circulating and Moving, and focuses on development of clinical techniques associated with ophthalmology, neurology, gastroenterology, dentistry, dermatology, wound healing, castration, and preventive medicine.

Equine Diagnostic Techniques for the Digestive, Nervous & Integumentary - VM 8020 Credit 1

This laboratory-centered course will provide advanced training and experience in performing and interpreting techniques commonly used in equine practice. Specifically, the techniques learned and practiced in the course complement the material taught in the Equine Medicine & Surgery 2 and Equine Problem Solving 2 courses.

The Next Equid - VM 8814 Credits 3

This course will expand upon the equine knowledge obtained in The Next Generation. It will focus on learning the aspects of equine theriogenology and foal care that are applicable to primary care equine practice.

Equine Nutrition - VM 8394 Credit 1

This course is designed to develop day one veterinary competency in equine nutrition. How should the healthy horse be fed? How should the horse with a nutrition-sensitive health condition be fed? After completing this course, students will be able to evaluate and design rations for horses of varying physiologic and pathophysiologic statuses.

Special Topics in Equine Clinical Problem Solving VM 8130 Credits 2

This course will cover many of the common diseases and issues seen by practicing equine veterinarians.

Spring Track Courses

Food Animal Population Medicine - VM 8610 Credits 2

This course presents the concepts of production diseases at the herd level which includes the diagnostic, therapeutic, and prevention techniques that are applied at the herd level rather than the individual animal.

Food Animal Clinical Reproduction - VM 8774 Credit 1

This course presents the practice of clinical reproductive techniques in a food animal or mixed animal practice. The course will include demonstration and performance of techniques for evaluation of clinical reproduction for individual animals in herds of food animal species including cattle, sheep, goats, and swine. Emphasis is on clinical techniques such as ultrasonography of the reproductive tract of males and females, breeding soundness evaluations of bulls, pregnancy evaluation of the bovine reproductive tract, as well as dystocia and fetotomy techniques in the bovine.

Beef Production - VM 8734 Credit 1

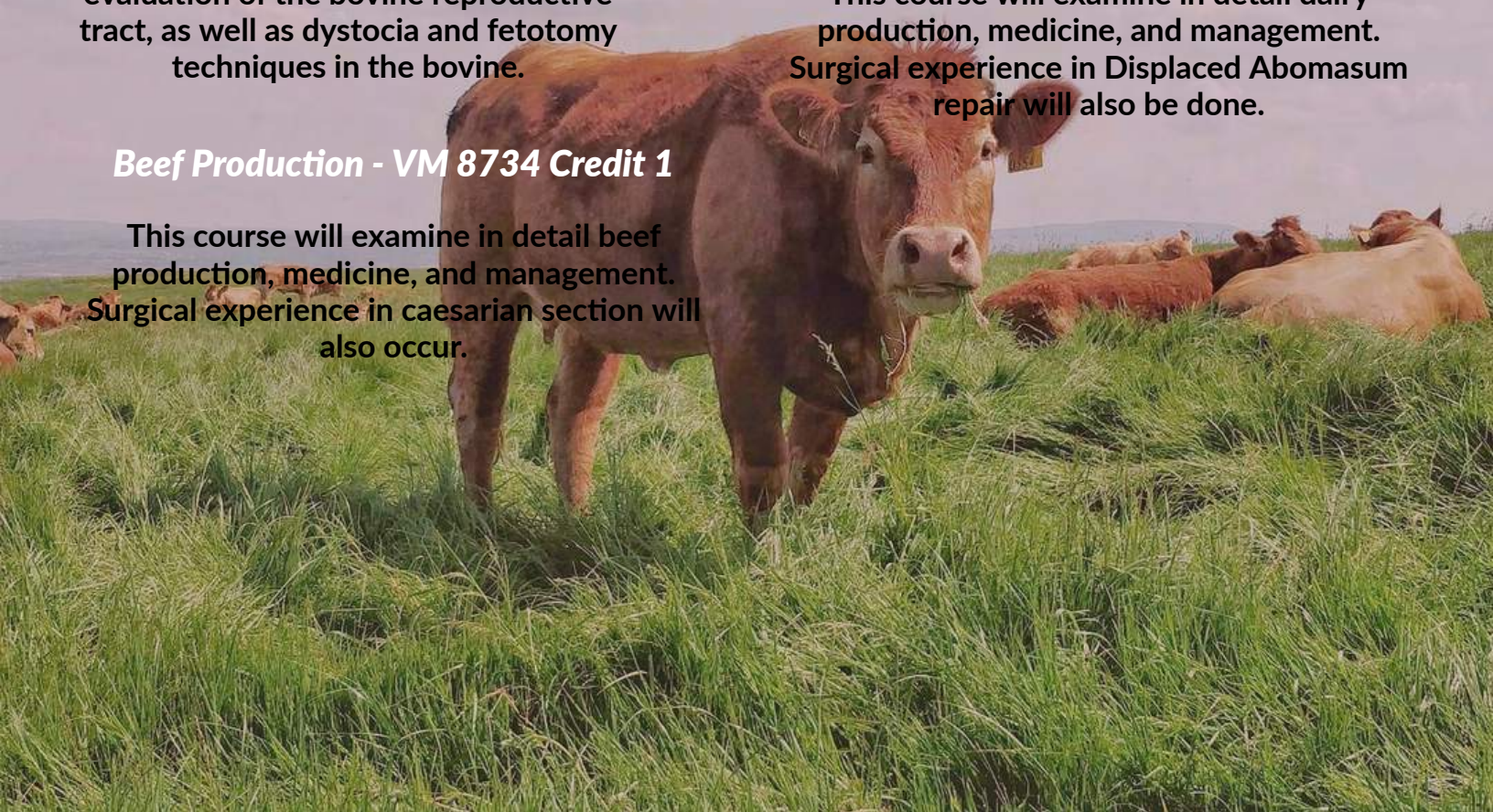
This course will examine in detail beef production, medicine, and management. Surgical experience in caesarian section will also occur.

Food Animal Problem Solving - VM 9044 Credits 2

In this course, students will learn to identify common medical problems of food animals, including disorders/diseases of reproduction, the mammary gland, metabolism, nutrition, the musculoskeletal system, the gastrointestinal system, the respiratory system, the hemolymphatic system, and the neurologic system, formulate a differential diagnosis list for common clinical food animal conditions, recommend appropriate diagnostic tests and interpret test results, recommend a therapeutic regimen and monitoring system to evaluate success of treatment, establish an economically-based control/prevention protocol, determine herd implications of common medical problems, and read and evaluate published, peer-reviewed articles to determine implications on diagnosis and treatment options.

Dairy Production - VM 8744 Credit 1

This course will examine in detail dairy production, medicine, and management. Surgical experience in Displaced Abomasum repair will also be done.



Two white dogs, likely Labrador Retrievers, are sitting side-by-side on a wooden deck. Both dogs are wearing black graduation caps with gold tassels. They are also wearing orange triangular scarves. The dog on the left has a scarf that says "Moose THERAPY DOG" and the dog on the right has a scarf that says "Derek THERAPY DOG".

Spring Track Courses

Problem Solving in Public Corporate - VM 8224 Credits 2

This course will present public and corporate veterinary practice case studies in a problem-oriented format. Due to the breadth of public veterinary practice, a diversity of cases will be presented representing real situations that veterinarians in public practice have had to resolve or manage. Cases will vary from year to year depending on class interest and speaker availability. The course will be oriented towards developing critical thinking skills, recognizing the perspectives that must be considered, and understanding the broad, sometimes national and international impacts of decision making. Communication skills will also be emphasized.

Third Year Elective Courses

***In addition
to track courses,
students have
the opportunity
to select a
variety of
elective courses.***



Fall Elective Courses

Emerging Infectious Diseases - VM 9085 Credit 1

This course will apply fundamental terminology appropriately and explain concepts in emerging infectious diseases (detailing natural and human-origin reasons in the process), in addition to explaining basic concepts for the principles of transmission, pathogenesis, and clinical features of emerging bacterial, viral, parasitic, and zoonotic animal and human diseases, in addition to factors contributing to their emergence.

Functional Morphology of Birds - VM 8254 Credit 1

This course will identify birds as relatively close phylogenetic relatives of reptiles, as well as list structural features of modern birds that are both shared with and distinct from reptiles.

Principles of Infectious Diseases - VM 9334 Credits 3

This course surveys the basic principles of infectious diseases important in local, national, and global public health. This course covers parasitic, fungal, bacterial and viral pathogens and the mechanisms by which they cause disease, as well as the host's immune response to those pathogens.

Introduction to Statistics in Biomedical Research - VM 8534 Credits 2

This course will cover design of studies in veterinary-related clinical and epidemiologic research, planning, and implementation of experimental and survey data collection, management and analysis of data, and interpretation and presentation of results.

Ferret Medicine - VM 8874 Credit 1

This course seeks to provide veterinary students with the opportunity to become familiar with the veterinary care of companion animal ferrets (pets only). This course will provide students with an opportunity to become familiar with the husbandry and veterinary care of ferrets.

Topics in Animal-Human Relationships - VM 8984 Credits 2

The goal of this course is to provide a broad view of the current, evidence-based information about how animals and humans share the living world.



Fall Elective Courses

Infection Control & Prevention - VM 9324 Credits 3

The course will provide assessment, policies, and procedures for control and prevention of infectious diseases in communities and populations. Topics covered will include source, transmission mode, and local community to international dissemination of infectious disease agents; antimicrobial and chemical resistance; vaccine development, safety, and coverage; community- and hospital-based needs and interventions; and regulatory frameworks.

Environmental Health - VM 7014 Credits 3

The purpose of this course is to provide an overview of environmental health by answering two fundamental questions: How does the environment affect human health? How do we purposefully design environmental policies to optimize human health? This course will examine how chemical, biological, and physical agents found in the natural and manmade environment affect our health. The course will cover the main fields of environmental health sciences including toxicology, exposure science (including routes through air, water, and food media), environmental and occupational epidemiology, and risk assessment. The course will also explore how municipal, state, federal and international agencies design, implement and evaluate the success of environmental and occupational policies, taking into consideration social and economic factors.

Fundamentals of Veterinary Diagnostics - VM 8070 Credits 2

In this course students will compare the use and usefulness of current and emerging diagnostic tests. They will practice selection of appropriate diagnostic tests for a given clinical scenario or gross lesion, including justification of their choice of diagnostic test and correctly submit samples to either in-hospital or external laboratories. Interpret diagnostic test results for a given clinical scenario or gross lesion.

Small Animal Physical Rehabilitation and Complementary Medicine - VM 8804 Credit 1

This course will cover the basic concepts of physical rehabilitation, conditioning, and complementary therapy in small animals. Students will be introduced to various therapeutic options to include (but not limited to) therapeutic and conditioning exercises, acupuncture, photobiomodulation, electrical stimulation, therapeutic ultrasound, and nutrition/nutraceuticals.

Fall Elective Courses

Compassionate End of Life Care - VM 8060 Credits 2

The purpose of this course is to provide a cohesive body of work to support students interested in understanding as much as they can about euthanasia. Upon completion the student will have completed the Companion Animal Euthanasia Training Academy (CAETA) and receive that distinction. Coursework topics include the history and societal impact of euthanasia, drug pharmacology, caregiver considerations, pre-euthanasia sedation protocols, euthanasia techniques, case reviews, and more.

Neglected & Emerging Diseases - VM 9344 Credits 3

This course promotes an understanding of the concept of neglected diseases and their association with poverty and health inequities, the critical factors for emergence/re-emergence of infectious diseases, and the challenges and implications for disease control, eradication, and response.

Food Animal Product Safety - VM 8154 Credits 2

This course will provide the history, development, and enforcement of laws and regulations that affect the food animal processing industry and consumers, in addition to a comprehensive approach to microbiological and physical foodborne hazard identification, testing, and sampling. Moreover, the course will highlight foodborne hazard prevention and control, including Hazard Analysis and Critical Control Points systems.

Veterinary Practice Business Management - VM 8984 Credit 1

Business management, marketing, and entrepreneurship concepts will be covered in detail. It will provide students with an understanding of the requirements, risks, and rewards of veterinary practice ownership and enable students to assess and analyze business problems, as well as develop creative solutions.

Zoo Mammal Comparative Physiology - VM 8244 Credit 1

This course is designed for students who have a foundation in anatomy and physiology to use their knowledge and skills to apply to non-domestic species of mammals. It will provide a foundational knowledge of the life histories and associated functional morphological adaptations of various taxonomic groups within the Class Mammalia.



Spring Elective Courses

Decision Making in Veterinary Pharmacology - VM 8784 Credits 2

In this course, students will learn to recall the major classes of antimicrobial drugs, their mechanism of action, adverse effects, drug interactions and appropriate clinical use, recall the major classes of analgesic drugs, their mechanism of action, adverse effects, drug interactions and appropriate clinical use, recall the major classes of anti-parasitic drugs, their mechanism of action, adverse effects, drug interactions and appropriate clinical use, apply knowledge of antimicrobials and analgesic drugs to decide on a therapeutic course for specific case examples, apply knowledge of anti-parasitic drugs to decide on a prophylactic course for specific animals, discuss the possible effects of co-morbidities on the pharmacokinetics and dosage regimens in patients and discuss possible drug-drug interactions in animals with multiple co-morbidities.

Descriptive Embryology - VM 8024 Credit 1

In this course students will learn the process of early embryologic development, from cleavage through the establishment of the three primary germ layers.

Veterinary Cytopathology- VM 8704 Credit 1

In this course, students will microscopically review and discuss cytological samples from common neoplastic, inflammatory, and infectious disorders.

Clinical Reptile Medicine - VM 8864 Credit 1

The aim of this course is to provide a good understanding of reptile husbandry, medicine, and surgery. There will be emphasis on anatomical differences between the four main groups of reptiles: chelonians, lizards, crocodylians, and snakes. This course will help students to understand the differences between reptiles and other more common species in a biological, anatomical, and husbandry sense. Diagnostics, hospital care, anesthesia, analgesia, and critical will be covered, along with diagnostics, surgery, and treatment of commonly occurring diseases and injuries. The emphasis of this course will be on captive reptile species mostly.

Spring Elective Courses

Equine Sports Medicine & Rehabilitation - VM 9024 Credits 2

This course will introduce students to the basic concepts within equine sports medicine, rehabilitation, and complementary medicine. Students will learn about examination and diagnosis of performance limiting musculoskeletal injuries and cardiorespiratory conditions in the athletic equine. Students will then be introduced to various therapeutic options for treatment of these injuries and will work through some example cases.

Infectious Disease Epidemiology - VM 7314 Credits 3

This course will cover dynamics and determinants of infectious diseases and their assessment on the molecular to population continuum in a systems based approach. Infectious disease transmission, mechanisms; population susceptibilities; environmental, social, cultural and economic contributors to infectious disease propagation; detection and surveillance; geographic information systems.

Pocket Pets Medicine - VM 9224 Credit 1

This course will provide basic information on the proper care and management of a variety of companion exotic species (i.e., rats, mice, gerbils, hamsters, guinea pigs, chinchillas, rabbits, ferrets, sugar gliders, and hedgehogs) commonly seen in veterinary practice. Topics will cover common medical problems, including major infectious diseases, non-infectious problems, nutritional problems, and trauma. Diagnostic approaches, medical management, treatments, and vaccination protocols will be presented when appropriate.

Topics in Veterinary Public Health - VM 8464 Credits 2

The World Health Organization defines Veterinary Public Health as “the sum of all contributions to the physical, mental and social well-being of humans through an understanding and application of veterinary science.” In this course, students will investigate a series of veterinary public health topics, through a combination of pre-class readings, in-class lectures, discussions and activities, and review of recent journal articles relevant to the topics discussed. In addition, students will participate in an in-class exercise using the CDC’s Zoonotic Disease Prioritization Tool, which is currently used by Ministries of Health and Agriculture around the world as part of the Global Health Security Agenda. This course will allow students to apply their veterinary knowledge within the context of current domestic and global public health problems.

Wildlife Medicine - VM 8594 Credit 1

This course will present the basics of wildlife medicine and rehabilitation including the regulations and ethics covering the rehabilitation and release of native wildlife, major infectious diseases, emerging and zoonotic diseases, parasites, toxicities, injuries and other problems of wildlife. Common treatments, methods and equipment used to care for and rehabilitate these animals will be presented. Species covered will include both native mammals and birds (waterfowl, songbirds, and raptors).

Spring Elective Courses

Applied Veterinary Diagnostics - VM 8844 Credits 2

This course will focus on interpretation of laboratory data and imaging in common domestic species, with an emphasis on relating abnormal diagnostic results to gross lesions and disease pathogenesis. The majority of this course will be administered using a mixture of traditional lectures and case-based learning sessions.

Small Animal Behavioral Medicine - VM 8000 Credit 1

This course provides an introduction to canine and feline behavioral medicine. Topics include ontogeny of behavior, basic obedience and housetraining, aggression, anxiety, compulsive disorders, elimination problems, psychopharmacology, and other common behavior problems encountered in general practice.

Avian Medicine & Surgery - VM 9004 Credit 1

This course will introduce students to the common diseases that affect pet birds. Students will be expected to apply problem solving / critical thinking skills to construct (reverse engineer) clinical presentations from pathological findings. Development of differential diagnosis lists and diagnostic plans will be emphasized. Approaches to treatment, control and prevention of birds will be discussed.

Advanced Histopathology - VM 9064 Credit 1

In this course students will learn about the process for preparation of histologic slides from tissues derived at necropsy and biopsy and identify processing artifacts in tissues, to identify and describe cellular and tissue changes in response to injury, to identify and describe infectious organisms in tissue sections using conventional and special stains, to identify and describe epithelial, mesenchymal, and round cell neoplasms, to identify and describe microscopic lesions in multiple tissues a wide variety of species, and how to write and interpret histologic descriptions.

Care Forward - VM 8810 Credits 2

In this course students will learn to produce personal and professional goals to create life balance, identify potential stressors in both work and personal life, construct wellness strategies, including relationships, self-care, mindfulness-based stress reduction and personal interests, identify reasons for practice burnout and develop strategies to prevent burnout, discover the importance of the humanities in the practice of veterinary medicine.

Aquatic Medicine & Fish Health - VM 8494 Credits 2

This course will teach etiology, diagnosis, pathology, pathogenesis, chemotherapy, control and management of infectious and non-infectious diseases of aquatic organisms, especially pertaining to cultured food, ornamental and tropical fish. Hands on lab experience with water quality evaluation, non-lethal and lethal diagnostic techniques, and the identification of common pathogenic organisms.

Second Clinical Teaching Time

At the end of 3rd year, students will return in the fall semester after summer break to complete 12 three-week rotations prior to graduation.

All students are required to successfully complete 7 core rotations and all track requirements specific to a selected track. Each student will have the opportunity to participate in elective clerkships.





Core rotations include the following:

Community Practice
Production Management Medicine
Anesthesia
Shelter Medicine
Diagnostic Services
Equine Practice
Public Corporate

Based on career goals, students may pick and choose from a variety of rotations including food animal, equine, small animal and exotics.

Small Animal Rotations

Emergency Critical Care
Internal Medicine
Surgery-Orthopedics or Soft Tissue
Oncology
Ophthalmology
Cardiology

Equine Rotations

Large Animal Medicine & Surgery
Equine Medical Center
Equine Field Services
Equine Private Practice
Equine Podiatry

Public Corporate Rotations

**Federal/State Government
Research/Diagnostics
Corporate/Associate/Administrative
International Public Corporate
Institutional Applied Clinical Medicine**

Food Animal Rotations

**Production Management Medicine
Food Animal Private Practice
Therigenology
Dairy Herd Health Management
Beef Herd Health Management**

Mixed Animal Rotations

**Mixed Animal Private Practice
Exotic Animal Private Practice**



Elective Rotations

Students may participate in any internal rotation as an elective. In addition, students have the unique opportunity to select external experiences which fit with their career goals. These may include zoo/aquatic medicine, lab animal medicine, private or corporate practice, regulatory medicine, just to name a few.



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