

VETERINARY MEDICINE (DVM)

DVM F480 Skeleton Articulation

1 Credit

Offered Spring

Skeleton assembly of species, from birds to mammals, depending on availability. The majority of this course is hands-on articulation of skeletons that have been cleaned and prepared prior to class. The lab will be supplemented with lectures covering bones, joint types, and biologically accurate limb and joint angles.

Prerequisites: BIOL F111X, BIOL F112X or BIOL F310.

Lecture + Lab + Other: 0 + 3 + 0

DVM F603 Veterinary Science Research and Methods

1 Credit

Offered Fall

This course will illustrate the role of research in furthering the practice of veterinary medicine by presenting a series of lectures from clinical and basic science investigators, faculty and staff who will describe important elements of the research process. The course will also describe possible career opportunities to students in animal health research.

Prerequisites: Admittance to the professional veterinary program.

Lecture + Lab + Other: 1 + 0 + 0

DVM F606 Immunology

3 Credits

Offered Fall

Adaptive immune response including its components and activation from cells to molecules, clonal selection, antigen recognition, and discrimination between foreign and self. Concepts applied on the level of intact organisms addressing allergies, autoimmunity, transplantation, tumors and disease (AIDS).

Prerequisites: Admittance to the professional veterinary program.

Stacked with BIOL F465.

Lecture + Lab + Other: 3 + 0 + 0

DVM F610 Foundations of Veterinary Medicine

1 Credit

Offered Fall

The first semester of a four-course series in foundations of veterinary medicine. The full course series will encompass topics in ethics, communication, physical exam skills, surgical skills, clinical reasoning and professional development. This course will help you develop the professional skills necessary for the successful practice of veterinary medicine.

Prerequisites: Admittance to the professional veterinary program.

Lecture + Lab + Other: 1 + 0 + 0

DVM F611 Foundations of Veterinary Medicine II

1 Credit

Offered Spring

The second semester of a four-course series in foundations of veterinary medicine. The full course series will encompass topics in ethics, communication, physical exam skills, surgical skills, clinical reasoning and professional development. This course will help you develop the professional skills necessary for the successful practice of veterinary medicine.

Prerequisites: DVM F610.

Lecture + Lab + Other: 5 + 5 + 0

DVM F615 One Health Concepts (a)

2 Credits

Offered Fall

This course introduces students to the One Health paradigm with emphasis on its application in the circumpolar North. Students explore the relationships between human, animal and environmental health.

This holistic approach incorporates knowledge from natural and social sciences, history and culture of communities, traditional knowledge, laws, and government regulations.

Prerequisites: Admission to the One Health Masters.

Lecture + Lab + Other: 2 + 0 + 0

DVM F616 Functional Anatomy

8 Credits

Offered Fall

The course will include an introduction to veterinary anatomy: basic veterinary anatomy, orientation, nomenclature, locomotion apparatus, circulatory system, digestive, respiratory apparatus, lymphatic organs and nervous system of domestic animals. A general explanation of the basic anatomical preparation techniques will be presented to improve the manual skills of the students. The course will place the anatomical knowledge in a clinical context.

Prerequisites: Admittance to the professional veterinary program.

Cross-listed with MSL F618.

Lecture + Lab + Other: 5 + 6 + 0

DVM F618 Veterinary Physiology and Histology

7 Credits

Offered Fall

The course will discuss the histology and physiology of domestic animal organ systems, tissues, cartilage, bone, muscle, arthrology, nervous system, hematopoiesis, lymphatic, cardiovascular, respiratory and digestive systems; the renal system and physiology. The course will help to place the knowledge in histology and physiology in a clinical context.

Prerequisites: Admittance to the professional veterinary program.

Lecture + Lab + Other: 6 + 3 + 0

DVM F619 Veterinary Neurobiology

4 Credits

Offered Spring

Students will learn information on neurologic conditions in domesticated animals. A problem-oriented approach makes it easy to diagnose and treat neurologic problems in domesticated animals. The coverage of disorders by problem, not by established disease diagnosis, emulates how animals present to the veterinary hospital and simplifies the formulation of a correct diagnosis.

Prerequisites: Successful completion of first-semester veterinary courses.

Lecture + Lab + Other: 3 + 3 + 0

DVM F620 One Health Challenges in the Circumpolar North (a)

3 Credits

Offered Fall

Students are introduced to various tools and techniques to use a constructionist approach through a One Health lens to address significant issues in the circumpolar North. Students will learn to identify One Health challenges, gather information, engage stakeholders, communicate across several disciplines, build consensus, and develop action plans.

Prerequisites: DVM F615; admission to the One Health master's degree program.

Lecture + Lab + Other: 3 + 0 + 0

DVM F621 One Health Colloquium (a)

4 Credits
Offered Fall

Building on the concepts developed in DVM F615 and the tools utilized in DVM F620, this course provides students with the opportunity to work completely through a One Health challenge, including engagement of stakeholders, gathering of data, proposal of solutions, and presentation of management plans in a public forum.

Prerequisites: Admission to the Masters of One Health and completion of both DVM F615 and DVM F620.

Lecture + Lab + Other: 4 + 0 + 0

DVM F623 Veterinary Nutrition and Metabolism

2 Credits
Offered Spring

This course will examine the nutritional needs of major species of veterinary importance. Discussion will revolve around specific nutritional needs as they relate to life-stages and production status of monogastric and ruminant animals. Course topics deal with the classification and function of nutrients, digestive processes (monogastric, ruminant, hind-gut fermenters), evaluation of feedstuffs and feed labels, and principles of disease related to nutritional deficiency as well as nutritional excess.

Prerequisites: Successful completion of first-semester veterinary courses.

Cross-listed with MSL F613.

Lecture + Lab + Other: 2 + 0 + 0

DVM F625 Principles of Diagnostic Imaging

2 Credits
Offered Fall

This course will include an introduction to radiographic anatomy of small and large animals; introduction to X-ray, MRI and CT. The course will help to place the anatomical knowledge into clinical context.

Prerequisites: Admittance to the professional veterinary program.

Lecture + Lab + Other: 2 + 0 + 0

DVM F637 Veterinary Bacteriology and Mycology

2 Credits
Offered Spring

This course will discuss bacterial structure, differences between bacterial families, and fungi and their pathogenesis. The basic principles of bacterial and fungal pathogenesis will be presented. Host response to bacterial or fungal infection, immunity and the role of vaccines in disease prevention will be explained.

Prerequisites: Successful completion of first-semester veterinary courses.

Cross-listed with BIOL F632; MSL F637.

Lecture + Lab + Other: 2 + 0 + 0

DVM F639 Veterinary Virology

2 Credits
Offered Spring

This course will explore current concepts in the field of veterinary virology, with an emphasis on the viral structure, viral genetic material and viral replication strategies of various animal viruses. In addition, mechanisms of viral pathogenesis, prevention and treatment of viral infection will be presented.

Prerequisites: Successful completion of first-semester veterinary courses.

Cross-listed with BIOL F639; MSL F639.

Lecture + Lab + Other: 2 + 0 + 0

DVM F640 Veterinary Pathology/Biology of Disease I

5 Credits
Offered Spring

This course will discuss basic principles of disease with special emphasis on processes likely to be encountered veterinary practice. We will discuss these topics organized by underlying disease mechanism. The discussions will move from general cell-mediated processes to more specific disease mechanisms.

Prerequisites: Successful completion of first-semester veterinary courses.

Cross-listed with BIOL F640; MSL F642.

Lecture + Lab + Other: 4 + 3 + 0

DVM F648 Food Animal Production and Food Safety

2 Credits
Offered Spring

This course is designed to provide an understanding of food animal agriculture and food quality assurance. Students will explore contemporary production management systems of traditional and non-traditional food animal species. Animal welfare issues related to the raising of animals for food will be investigated. Students will learn where veterinary medicine fits into the protection of the human food supply.

Prerequisites: Successful completion of first-semester veterinary courses.

Lecture + Lab + Other: 2 + 0 + 0

DVM F681 Performance Dog Medicine and Surgery

2 Credits
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Designed to provide the student with a basic understanding of the different types of performance dog activities, to identify the unique demands, husbandry, management issues and basic physiological impacts of each category of performance exercise and to gain a basic understanding of commonly observed injuries and their prevention/treatment. This course is designed for veterinarians and veterinary students- the information provided is only partially covered during the regular DVM curriculum and hence no other prerequisites are required.

Prerequisites: Good standing in professional veterinary program.

Lecture + Lab + Other: 2 + 0 + 0

DVM F710 Foundations of Veterinary Medicine III

1 Credit
Offered Fall

The third semester of a four-course series in foundations of veterinary medicine. The full course series will encompass topics in ethics, communication, physical exam skills, surgical skills, clinical reasoning and professional development. Expanded physical examination of companion animals and livestock will be taught with special emphasis on advanced cardiopulmonary auscultation, mammary gland evaluation, otic exam and colic evaluation.

Prerequisites: DVM F611.

Lecture + Lab + Other: 0 + 3 + 0

DVM F711 Foundations of Veterinary Medicine IV

1 Credit
Offered Spring

The fourth semester of a four-course series. The full course series will encompass topics in ethics, communication, physical exam skills, surgical skills, clinical reasoning and professional development. Expanded physical examination of companion animals and livestock will be taught, with special emphasis on advanced techniques in reproduction, surgical skills, anesthesia and patient management.

Prerequisites: Successful completion of DVM F710.

Lecture + Lab + Other: 0 + 3 + 0

DVM F714 Preventative Veterinary Medicine

4 Credits
Offered Fall

The course will provide understanding of host/disease/agent interaction and the essential steps in disease outbreak investigation. Clinical and herd-based scenarios will be used for discussion of epidemiologic principles, features of zoonotic disease, and specific biosecurity and infectious-control issues as they relate to food safety and livestock production.

Prerequisites: Veterinary medicine student in good standing.

Lecture + Lab + Other: 4 + 0 + 0

DVM F722 Veterinary Pharmacology

4 Credits
Offered Fall

This course covers basic principles of pharmacology of common drugs and basic mechanisms of action. Individual agents will be introduced as examples. As a medicine course, the proper and effective use of drugs will be reviewed, including basics of veterinary therapeutics for selected classes of agents across selected species.

Prerequisites: Successful completion of all required first-year courses in DVM program, including advancement to year two.

Lecture + Lab + Other: 4 + 0 + 0

DVM F724 Veterinary Bioanalytical Pathology

6 Credits
Offered Fall

Professional veterinary program requirement studying pathology, hematology, biochemistry and cytopathology.

Prerequisites: Successful completion of first year professional veterinary medical program.

Lecture + Lab + Other: 5 + 2 + 0

DVM F726 Principles of Imaging Interpretation

2 Credits
Offered Spring

This is the first of a two-part series in imaging interpretation. This course covers gastrointestinal, thoracic and cardiac imaging. The second part of the course is held in the fall of the third year at Colorado State (VM728) and will cover equine and small-animal musculoskeletal, urinary tract and neurological imaging.

Prerequisites: Good standing in professional veterinary program.

Lecture + Lab + Other: 1 + 0 + 1

DVM F733 Principles of Surgery

2 Credits
Offered Spring

This course teaches principles and concepts of general and orthopedic surgery, including aseptic technique, surgical instrumentation, suture patterns, tissue healing and wound management. These topics comprise core material that prepares veterinary students for specific surgery.

Prerequisites: Successful completion of first-year veterinary medical program; good standing in professional veterinary medicine program.

Lecture + Lab + Other: 1 + 3 + 0

DVM F735 Animal Welfare

2 Credits
Offered Fall

This course will provide knowledge, skill development and tools necessary for professionals to assess and promote animal welfare and to analyze its associated challenges. It will stress the need for perpetual reassessment of animal welfare knowledge and reinforce the professional's role in staying up-to-date and proactive.

Prerequisites: Completion of first year of veterinary school, or graduate student with approval of instructor.

Cross-listed with BIOL F641.

Lecture + Lab + Other: 2 + 0 + 0

DVM F737 Principles of Veterinary Anesthesia

3 Credits
Offered Spring

This course is an introduction to the principles of clinical anesthesia. Performing anesthesia requires applying knowledge of chemistry, physics, physiology, pharmacology and equipment in a clinical setting. Anesthetists should strive to create an optimal anesthetic state for each individual patient after careful consideration of the patient's unique medical and surgical needs. Available anesthetic and support drugs, the anticipated effects of the drugs, the procedure to be performed on the patient, and the skill of the anesthetist all impact the management of individual cases. Improving patient comfort by minimizing acute postoperative pain is an important component of clinical anesthesia. It is our intent that this course serve as a foundation that supports and reinforces your knowledge of the basic sciences, and provide you with the opportunity to begin to get a feel for integrating those disciplines into making medical judgments.

Prerequisites: Good standing in the professional veterinary program.

Lecture + Lab + Other: 2 + 2 + 0

DVM F741 Biology of Disease II- Pathology of Organ Systems

4 Credits
Offered Fall

The course will discuss basic principles of disease with special emphasis on organ system diseases most likely to be encountered in veterinary practice. The discussions will move from general cell-mediated processes to more specific disease mechanisms in a variety of domestic and exotic species.

Prerequisites: Successful completion of first year of courses in the professional veterinary curriculum.

Lecture + Lab + Other: 3 + 2 + 0

DVM F742 Biology of Disease III - Pathology of Organ Systems II

3 Credits
Offered Spring

The course will discuss basic principles of disease with special emphasis on organ disease likely to be encountered in veterinary practice. We will discuss these topics organized by underlying disease mechanisms. The discussions will move from general cell-mediated processes to more specific disease mechanisms. The goals for this course are to provide professional veterinary students with an understanding of disease mechanisms in organs and to enable them to apply this knowledge in subsequent courses of anatomic pathology and clinical skills and ultimately become competent practitioners of the veterinary profession.

Prerequisites: Good standing in the professional veterinary program.

Lecture + Lab + Other: 2 + 2 + 0

DVM F744 Theriogenology

3 Credits

Offered Spring

Will familiarize students with reproductive organs of large and small animals: regulation of function, reproductive endocrinology, reproductive cycles, and the physiology and pathology of reproduction.

Prerequisites: Successful completion of first year veterinary medical program; good standing in professional veterinary medicine program.

Lecture + Lab + Other: 2 + 2 + 0

DVM F745 Clinical Sciences I

5 Credits

Offered Spring

This course is an introduction to clinical reasoning and problem solving as a diagnostician. Diagnostic approaches to common medical problems of cardiovascular, urinary and digestive-hepatic systems.

Prerequisites: Second year professional veterinary medicine program; student in good standing.

Lecture + Lab + Other: 10 + 0 + 0

DVM F747 Clinical Sciences II

5 Credits

Offered Spring

Continuation of clinical reasoning and problem-solving as a diagnostician. Diagnostic approaches to common medical problems of cardiac and pulmonary systems and fluid and electrolyte disorders of small and large animals.

Prerequisites: Second year professional veterinary medicine program; student in good standing.

Lecture + Lab + Other: 10 + 0 + 0

DVM F751 Veterinary Clinical Toxicology

2 Credits

Offered Fall

This course will provide an overview of clinical toxicology relevant to veterinarians.

Prerequisites: Successful completion of all required first-year courses in DVM program, including advancement to year two.

Lecture + Lab + Other: 2 + 0 + 0

DVM F776 Veterinary First Principles

2 Credits

Offered Spring Even-numbered Years

This course teaches students how to approach veterinary medicine from first principles of form and function. Building on anatomy and physiology knowledge, DVM students will develop a standard operating procedure for logical problem-solving in veterinary medicine. This course will teach critical thinking and clinical reasoning through facilitated discussion.

Prerequisites: Completion of first semester of veterinary school.

Lecture + Lab + Other: 2 + 0 + 0

DVM F777 Strategies for Establishing and Maintaining Well-being in the Veterinary Profession

1 Credit

Offered Spring

This course will investigate and demonstrate methods for maintaining well-being while managing the stress associated with membership in the veterinary profession. Strategies for time management, life balance, nutrition, exercise and recovery will be discussed as means of enhancing well-being and preventing professional burnout, which is widespread in the profession today. This course will utilize hands-on engagement as well as live and distance discussions with experts in the respective multidisciplinary fields that contribute to well-being.

Prerequisites: Good standing in the professional veterinary program.

Lecture + Lab + Other: 1 + 0 + 0