VMED 7113 Veterinary Physiology II  
**Prerequisites:** First-year standing in the College of Veterinary Medicine.  
**Description:** Study of molecular, cellular and organ system physiology with emphasis on establishing a base of knowledge and understanding requisite courses within the curriculum of veterinary medicine. Continuation of VMED 7114. (8 week course) Previously offered as VMED 7120.  
**Credit hours:** 3  
**Contact hours:** Lecture: 3  
**Levels:** Professional  
**Schedule types:** Lecture  
**Department/School:** Dean of Veterinary Med  

VMED 7114 Veterinary Physiology I  
**Prerequisites:** First-year standing in the College of Veterinary Medicine.  
**Description:** To introduce students to the relevant concepts of cell physiology and cardiovascular physiology, providing a foundation for Physiology II and III, clinical coursework and clinical rotations. Previously offered as VMED 7110.  
**Credit hours:** 4  
**Contact hours:** Lecture: 4  
**Levels:** Professional  
**Schedule types:** Lecture  
**Department/School:** Dean of Veterinary Med  

VMED 7123 Veterinary Histology  
**Prerequisites:** First-year standing in the College of Veterinary Medicine.  
**Description:** Organization and structure of cells and tissues of domestic animals. Classroom/Lab Supply & Materials Fee of $20.00 applies. Previously offered as VMED 5123.  
**Credit hours:** 3  
**Contact hours:** Lecture: 2 Lab: 2  
**Levels:** Professional  
**Schedule types:** Lab, Lecture, Combined lecture and lab  
**Department/School:** Dean of Veterinary Med  

VMED 7144 Gross and Developmental Anatomy  
**Prerequisites:** First-year standing in the College of Veterinary Medicine.  
**Description:** Embryology and anatomy of domestic mammals using the dog as the primary model. Integrated lecture-dissection laboratory format. Emphasis on the integration of developmental gross, radiographic and applied aspects of veterinary anatomy as they relate to a topographical appreciation of the living individual. Classroom/Lab Supply & Materials Fee of $100.00 applies. Previously offered as VMED 5144.  
**Credit hours:** 4  
**Contact hours:** Lecture: 1 Lab: 6  
**Levels:** Professional  
**Schedule types:** Lab, Lecture, Combined lecture and lab  
**Department/School:** Dean of Veterinary Med  

VMED 7152 Zootechnology  
**Prerequisites:** First-year standing in the College of Veterinary Medicine.  
**Description:** Animal breeds and identification, animal production and marketing systems and animal handling and restraint as it applies to production and marketing. Classroom/Lab Supply & Materials Fee of $100.00 applies. Previously offered as VMED 5152.  
**Credit hours:** 2  
**Contact hours:** Lecture: 2  
**Levels:** Professional  
**Schedule types:** Lecture  
**Department/School:** Dean of Veterinary Med  

VMED 7162 Orientation to the Veterinary Medical Profession  
**Prerequisites:** First year standing in College of Veterinary Medicine.  
**Description:** Introduction to veterinary jurisprudence, ethics; licensing, government regulations, human-animal bond, and evolving issues in animal law and animal welfare.  
**Credit hours:** 2  
**Contact hours:** Lecture: 2  
**Levels:** Professional  
**Schedule types:** Lecture  
**Department/School:** Dean of Veterinary Med  

VMED 7221 Epidemiology and Evidence-Based Medicine  
**Prerequisites:** First-year standing in the College of Veterinary Medicine.  
**Description:** Principles and uses of evidence-based practice of veterinary medicine; comprehension and utilization of scientific research; interpretation of basic concepts of observational study of disease.  
**Credit hours:** 1  
**Contact hours:** Lecture: 1  
**Levels:** Professional  
**Schedule types:** Lecture  
**Department/School:** Dean of Veterinary Med  

VMED 7223 Veterinary Parasitology I  
**Prerequisites:** First-year standing in the College of Veterinary Medicine.  
**Description:** Introduction to the general principles of parasitism and parasites of veterinary medical importance including taxonomy morphology, biology of parasites, modes of transmission, host-parasite relationships, infectious processes and pathogenicity, diagnostic methods, treatment and control measures and public health importance. Classroom/Lab Supply & Materials Fee of $30.00 applies. Previously offered as VMED 5323.  
**Credit hours:** 3  
**Contact hours:** Lecture: 2 Lab: 2  
**Levels:** Professional  
**Schedule types:** Lab, Lecture, Combined lecture and lab  
**Department/School:** Dean of Veterinary Med  

VMED 7235 Veterinary Physiology III  
**Prerequisites:** First-year standing in the College of Veterinary Medicine.  
**Description:** Molecular, cellular and organ system physiology. Establishing a base of knowledge and understanding requisite to subsequent courses. Previously offered as VMED 7230.  
**Credit hours:** 5  
**Contact hours:** Lecture: 5  
**Levels:** Professional  
**Schedule types:** Lecture  
**Department/School:** Dean of Veterinary Med
VMED 7243 Comparative Anatomy
Prerequisites: First year standing in the College of Veterinary Medicine.
Description: Comparative and functional gross anatomy of domestic mammals. Emphasis on the integration of developmental gross, radiologic, and applied clinical aspects of veterinary anatomy as they relate to a topographical appreciation of the living individual. Integrated lecture-dissection laboratory format. Course previously offered as VMED 5243.

Credit hours: 3
Contact hours: Lecture: 1 Lab: 4
Levels: Professional
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Dean of Veterinary Med

VMED 7253 Veterinary Immunology
Prerequisites: First-year standing in College of Veterinary Medicine.
Description: Basic principles of immunology and their application to veterinary medicine. Course previously offered as VMED 7250.

Credit hours: 3
Contact hours: Lecture: 2 Lab: 2
Levels: Professional
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Dean of Veterinary Med

VMED 7264 General Pathology
Prerequisites: First-year standing in the College of Veterinary Medicine.
Description: Cellular and tissue pathology, pigments, inflammation, immunopathology, disturbances of growth and circulation, and neoplasia. Functional disturbances that accompany changes in structures as well as the causes and pathogenesis of diseases. Course previously offered as VMED 5264.

Credit hours: 4
Contact hours: Lecture: 3 Lab: 2
Levels: Graduate, Professional
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Dean of Veterinary Med

VMED 7311 Introduction to Clinics I
Prerequisites: Second-year standing in College of Veterinary Medicine.
Description: Clinical orientation including rotations in instruction and service units in the College. Graded on a pass-fail basis. Classroom/Lab Supply & Materials Fee of $78.00 applies.

Credit hours: 1
Contact hours: Lab: 2
Levels: Professional
Schedule types: Lab
Department/School: Dean of Veterinary Med

VMED 7323 Veterinary Parasitology II
Prerequisites: Second-year standing in the College of Veterinary Medicine.
Description: Principles of diagnostic, treatment, control and prevention of animal diseases produced by arthropod, protozoan, rickettsial, and helminth parasites. A problem-based approach to parasitic diseases affecting the integumentary, respiratory, hemic-lymphatic, reproductive, urinary, nervous/sensory, musculoskeletal, and alimentary systems with emphasis on diseases of domestic animals. Course previously offered as VMED 5423. Additional flat fee of $40.00 applies.

Credit hours: 3
Contact hours: Lecture: 2 Lab: 2
Levels: Professional
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Dean of Veterinary Med

VMED 7333 Pharmacology I
Prerequisites: Second-year standing in the College of Veterinary Medicine.
Description: Introduction of the principles of pharmacodynamics, drug disposition and pharmacokinetics. Pharmacological effects, mechanisms of actions, metabolism, disposition, clinical indications and toxic effects of drugs acting on the autonomic, central nervous, cardiovascular, respiratory, and renal systems. Course previously offered as VMED 5333.

Credit hours: 3
Contact hours: Lecture: 3
Levels: Professional
Schedule types: Lecture
Department/School: Dean of Veterinary Med

VMED 7342 Clinical Anatomy
Prerequisites: Second-year standing in the College of Veterinary Medicine.
Description: Aspects of gross anatomy as they relate to clinical applications. Classroom/Lab Supply & Materials Fee applies. Course previously offered as VMED 5342.

Credit hours: 2
Contact hours: Lecture: 1 Lab: 2
Levels: Professional
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Dean of Veterinary Med

VMED 7354 Infectious Diseases I
Prerequisites: Second-year standing in College of Veterinary Medicine.
Description: Important animal diseases caused by bacteria, fungi and viruses will be covered on a system basis. Mechanisms of infectious disease processes and the relationship of such processes to disease development, diagnosis, treatment and control. The relationship of zoonotic diseases to community and environmental health as well as important zoonoses. Course previously offered as VMED 7350. Additional flat fee of $75.00 applies.

Credit hours: 4
Contact hours: Lecture: 2 Lab: 4
Levels: Professional
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Dean of Veterinary Med

VMED 7363 Clinical Pathology
Prerequisites: Second-year standing in the College of Veterinary Medicine.
Description: Basic concepts pertinent to data interpretation and laboratory methods used in evaluation of disease. Classroom/Lab Supply & Materials Fee of $15.00 applies. Course previously offered as VMED 7363.

Credit hours: 3
Contact hours: Lecture: 2 Lab: 2
Levels: Professional
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Dean of Veterinary Med
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Prerequisites</th>
<th>Description</th>
<th>Credit hours</th>
<th>Contact hours</th>
<th>Levels</th>
<th>Schedule types</th>
<th>Department/School</th>
</tr>
</thead>
<tbody>
<tr>
<td>VMED 7401</td>
<td>Introduction to Beef Production Medicine</td>
<td>Second-year or third-year standing in the College of Veterinary Medicine.</td>
<td>This course will provide students with an understanding of the beef production industry in the United States. Students will gain an understanding of the importance of beef production to the US and global food production, the structure and function of the US beef industry, and the role of a veterinarian in beef production medicine. The course will be a combination of lecture and discussion format. If possible, the course will also include field trips to visit examples of the various segments of the beef industry.</td>
<td>1</td>
<td>Lecture: 1</td>
<td>Professional</td>
<td>Lecture</td>
<td>Dean of Veterinary Med</td>
</tr>
<tr>
<td>VMED 7410</td>
<td>Best Practices Business Model for Veterinarians</td>
<td>Second or third year standing in the College of Veterinary Medicine.</td>
<td>Online introduction to personal financial literacy and business management. This is a modular-format, online accessible course constructed by the Beef Cattle Institute at Kansas State University. Students will complete the course at their own pace. Course may be taken for 1 or 2 credits. To receive 2 credits, a short research paper dealing with current topics in management of a veterinary practice will be required.</td>
<td>1-2</td>
<td>Other: 1</td>
<td>Professional</td>
<td>Independent Study</td>
<td>Dean of Veterinary Med</td>
</tr>
<tr>
<td>VMED 7412</td>
<td>Anesthesiology</td>
<td>Second-year standing in the College of Veterinary Medicine.</td>
<td>Application of the principles of veterinary anesthesiology to incorporate fundamental aspects of physiology and pharmacology in the anesthetic management of important domestic species. Course previously offered as VMED 5412.</td>
<td>2</td>
<td>Lecture: 2</td>
<td>Professional</td>
<td>Lecture</td>
<td>Dean of Veterinary Med</td>
</tr>
<tr>
<td>VMED 7413</td>
<td>Food Safety and Public Health</td>
<td>Second-year standing in the College of Veterinary Medicine.</td>
<td>Approaches and skills for identifying, investigating and mitigating occurrences of disease outbreaks; introduction to zoonotic diseases; role veterinarians play in protecting public health; potential human health hazards in foods of animal origin. Course previously offered as VMED 5313.</td>
<td>3</td>
<td>Lecture: 3</td>
<td>Professional</td>
<td>Lecture</td>
<td>Dean of Veterinary Med</td>
</tr>
<tr>
<td>VMED 7421</td>
<td>The Healer's Art</td>
<td>Second- or third-year standing in the College of Veterinary Medicine.</td>
<td>Small group discussion based course focused on finding meaning in veterinary medicine, avoiding compassion fatigue and finding work-life balance. Students and veterinarians are brought together in a discovery model that encourages honest and mutually respectful sharing of experience, beliefs and personal truths.</td>
<td>1</td>
<td>Lecture: 1</td>
<td>Professional</td>
<td>Lecture</td>
<td>Dean of Veterinary Med</td>
</tr>
<tr>
<td>VMED 7431</td>
<td>Small Animal Nutrition</td>
<td>Second- or third-year standing in the College of Veterinary Medicine.</td>
<td>Basic nutrition and feeding recommendations for healthy dogs and cats. The incorporation of nutritional counseling into preventative medicine programs is a focus. Lectures, case discussions, and laboratories will be delivered on site, online and by teleconference.</td>
<td>1</td>
<td>Lecture: 1</td>
<td>Professional</td>
<td>Lecture</td>
<td>Dean of Veterinary Med</td>
</tr>
<tr>
<td>VMED 7432</td>
<td>Pharmacology II</td>
<td>Second-year standing in the College of Veterinary Medicine.</td>
<td>Continuation of VMED 7333 that includes the mechanisms of action, disposition, adverse effects, and indications for groups of pharmacological agents used in veterinary medicine. Course previously offered as VMED 5432.</td>
<td>2</td>
<td>Lecture: 2</td>
<td>Professional</td>
<td>Lecture</td>
<td>Dean of Veterinary Med</td>
</tr>
<tr>
<td>VMED 7441</td>
<td>Veterinary Emergency Response and Disaster Management</td>
<td>Second- or third-year standing in the College of Veterinary Medicine.</td>
<td>Introduction to the principles and structure of emergency management including the Incident Command System, the hierarches of EM, and responsibilities of local, state and federal emergency responders from city emergency managers to FEMA. Basics of animal disaster management to include hazard recognition, the disaster life cycle, development of Emergency Operations Plans and management of various species of animals in disasters.</td>
<td>1</td>
<td>Lecture: 1</td>
<td>Professional</td>
<td>Lecture</td>
<td>Dean of Veterinary Med</td>
</tr>
</tbody>
</table>
VMED 7443 Diagnostic Imaging  
**Prerequisites:** Second-year standing in the College of Veterinary Medicine.  
**Description:** Radiographic theory, techniques, and interpretation. Introduction to alternate methods, including ultrasonography. Course previously offered as VMED 5443.  
**Credit hours:** 3  
**Contact hours:** Lecture: 3  
**Levels:** Professional  
**Schedule types:** Lab, Lecture, Combined lecture and lab  
**Department/School:** Dean of Veterinary Med  

VMED 7454 Infectious Diseases II  
**Prerequisites:** Second-year standing in the College of Veterinary Medicine.  
**Description:** Continuation of Infectious Diseases I (VMED 7354). Classroom/Lab Supply & Materials Fee of $25.00 applies. Course previously offered as VMED 7450.  
**Credit hours:** 4  
**Contact hours:** Lecture: 2  
**Levels:** Professional  
**Schedule types:** Lecture  
**Department/School:** Dean of Veterinary Med  

VMED 7482 Hemolymphatic and Oncology  
**Prerequisites:** Second-year standing in the College of Veterinary Medicine.  
**Description:** Pathogenesis, diagnosis, pathology, medical and surgical treatment, and prevention of diseases related primarily to the blood and lymphatic system (six-week module). Course previously offered as VMED 5582.  
**Credit hours:** 2  
**Contact hours:** Lecture: 3  
**Levels:** Professional  
**Schedule types:** Lecture  
**Department/School:** Dean of Veterinary Med  

VMED 7502 Ophthalmology  
**Prerequisites:** Third-year standing in the College of Veterinary Medicine.  
**Description:** Pathogenesis, diagnosis, medical and surgical treatment, and prevention of ophthalmic disease in small animal and equine patients. Course previously offered as VMED 7501.  
**Credit hours:** 2  
**Contact hours:** Lecture: 2  
**Levels:** Professional  
**Schedule types:** Lecture  
**Department/School:** Dean of Veterinary Med  

VMED 7503 Ophthalmology Elective  
**Prerequisites:** Second- or third-year standing in the College of Veterinary Medicine.  
**Description:** Pathogenesis, diagnosis, medical and surgical treatment, and prevention of ophthalmic disease in small animal and equine patients. Course previously offered as VMED 7501.  
**Credit hours:** 2  
**Contact hours:** Lecture: 2  
**Levels:** Professional  
**Schedule types:** Lecture  
**Department/School:** Dean of Veterinary Med  

VMED 7507 Ophthalmology Research Project  
**Prerequisites:** Second-year standing in the College of Veterinary Medicine.  
**Description:** Pathogenesis, diagnosis, medical and surgical treatment, and prevention of ophthalmic disease in small animal and equine patients. Course previously offered as VMED 7501.  
**Credit hours:** 2  
**Contact hours:** Lecture: 2  
**Levels:** Professional  
**Schedule types:** Lecture  
**Department/School:** Dean of Veterinary Med  

VMED 7512 Laboratory Animal Medicine  
**Prerequisites:** Second- or third-year standing in the College of Veterinary Medicine.  
**Description:** Introductory course focusing on the biology and major diseases of commonly used laboratory animals. Course previously offered as VMED 7721.  
**Credit hours:** 2  
**Contact hours:** Lecture: 2  
**Levels:** Professional  
**Schedule types:** Lecture  
**Department/School:** Dean of Veterinary Med  

VMED 7521 Veterinary Practice Management  
**Prerequisites:** Second- or third-year standing in the College of Veterinary Medicine.  
**Description:** Skills and background for success as an employee in private veterinary practice. Successful practice is defined in terms of the perceived value received in the delivery of veterinary medical services, doctor-client communication skills, and aesthetic quality of the environment in which services are delivered. Business management of private practice, personal finances, and personnel management. Course previously offered as VMED 5521.  
**Credit hours:** 1  
**Contact hours:** Lecture: 1  
**Levels:** Professional  
**Schedule types:** Lecture  
**Department/School:** Dean of Veterinary Med  

VMED 7522 Small Animal Medical Diagnosis: Signs and Symptoms  
**Prerequisites:** Second- or third-year standing in the College of Veterinary Medicine.  
**Description:** Introductory course focusing on the biology and major diseases of commonly used laboratory animals. Course previously offered as VMED 7521.  
**Credit hours:** 2  
**Contact hours:** Lecture: 2  
**Levels:** Professional  
**Schedule types:** Lecture  
**Department/School:** Dean of Veterinary Med  

VMED 7523 Small Animal Medical Diagnosis: Therapy and Clinical Management  
**Prerequisites:** Second- or third-year standing in the College of Veterinary Medicine.  
**Description:** Introductory course focusing on the biology and major diseases of commonly used laboratory animals. Course previously offered as VMED 7521.  
**Credit hours:** 2  
**Contact hours:** Lecture: 2  
**Levels:** Professional  
**Schedule types:** Lecture  
**Department/School:** Dean of Veterinary Med  

VMED 7531 Avian Biology for Veterinarians  
**Prerequisites:** Second- or third-year standing in the College of Veterinary Medicine.  
**Description:** Topics in avian biology of value to veterinary students who will be treating birds in their practice or those planning to be active in raptor rehabilitation. Feather anatomy and molt; bill and claw anatomy; characteristics of the avian skeleton; weight saving adaptations; recondition atrophied flight muscles in raptors; anatomy of the digestive system; how birds breathe; avian aerodynamics; taste and olfaction in birds; reproductive biology; raptor natural history; identification, rehabilitation.  
**Credit hours:** 1  
**Contact hours:** Lecture: 1  
**Levels:** Professional  
**Schedule types:** Lecture  
**Department/School:** Dean of Veterinary Med
<table>
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<tr>
<th>Course Code</th>
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<th>Levels:</th>
<th>Schedule types:</th>
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</tr>
</thead>
<tbody>
<tr>
<td>VMED 7532</td>
<td>Molecular Genetics</td>
<td>Second or third-year or higher in good standing in</td>
<td>The expression, purification, characterization, and application of biological macromolecules in therapeutics and diagnostics relevant to animal health. Course previously offered as VMED 5532.</td>
<td>2</td>
<td>Lecture: 3</td>
<td>Professional</td>
<td>Lecture</td>
<td>Dean of Veterinary Med</td>
</tr>
<tr>
<td>VMED 7533</td>
<td>Toxicology</td>
<td>Third-year standing in the College of Veterinary Medicine.</td>
<td>Diagnosis and management of intoxications involving plant, chemical and biological toxins. Classroom/Lab Supply &amp; Materials Fee of $15.00 applies. Course previously offered as VMED 6533.</td>
<td>3</td>
<td>Lecture: 3</td>
<td>Professional</td>
<td>Lecture</td>
<td>Dean of Veterinary Med</td>
</tr>
<tr>
<td>VMED 7541</td>
<td>Introduction to Food Animal Production Systems</td>
<td>Second or third-year standing in the College of Veterinary Medicine.</td>
<td>Consists of a week-long field trip of food animal production operations in Oklahoma and Texas providing exposure to beef cattle, swine and dairy production industries. Includes group presentation of the experience.</td>
<td>1</td>
<td>Lecture: 1</td>
<td>Professional</td>
<td>Lecture</td>
<td>Dean of Veterinary Med</td>
</tr>
<tr>
<td>VMED 7542</td>
<td>Clinical Endocrinology I</td>
<td>Second- or third-year standing in the College of Veterinary Medicine.</td>
<td>Advanced medical endocrinology addressing diagnostic endocrinology and therapeutic endocrinology. Diagnostic endocrinology shall examine the physiological and medical basis for selecting provocative or non-provocative testing procedures as an adjunct to completing a definitive diagnosis. Therapeutic endocrinology involves the use of diagnostic endocrinology to evaluate the efficacy of medical treatment of endocrinopathies and the medical use of hormonal preparations to control animal physiology or endocrinology and non-endocrine diseases.</td>
<td>2</td>
<td>Lecture: 2</td>
<td>Professional</td>
<td>Lecture</td>
<td>Dean of Veterinary Med</td>
</tr>
<tr>
<td>VMED 7551</td>
<td>Food Animal: Advanced Techniques</td>
<td>Second-year standing in the College of Veterinary Medicine.</td>
<td>This elective is designed to give second year students the opportunity to learn how to perform some of the most commonly performed procedures in food animal medicine in regards to the modalities of treatment, diagnostics, herd health, local anesthesia and Pharmacology. One hour per week will be spent as formal lecture to provide some theory for the procedures and techniques to be performed during the laboratory periods. Classroom/Lab Supply &amp; Materials Fee of $30.00 applies.</td>
<td>1</td>
<td>Lab: 2</td>
<td>Professional</td>
<td>Lab</td>
<td>Dean of Veterinary Med</td>
</tr>
<tr>
<td>VMED 7561</td>
<td>Introduction to Shelter Medicine</td>
<td>Second- or third-year standing in the College of Veterinary Medicine.</td>
<td>Introduction course on topics relevant to shelter medicine. Discusses major subjects and issues important to practicing medicine in the shelter setting.</td>
<td>1</td>
<td>Lecture: 1</td>
<td>Professional</td>
<td>Lecture</td>
<td>Dean of Veterinary Med</td>
</tr>
<tr>
<td>VMED 7562</td>
<td>Avian and Exotic Pet Medicine</td>
<td>Third-year standing in the College of Veterinary Medicine.</td>
<td>Clinical diagnosis, management and treatment, prognosis, and prevention of diseases in avian and exotic pets. Introductory material provided to familiarize students with the species discussed and where clinically important; however, student understanding of the basic sciences required and assumed. Additional fee of $50.00 per credit hour applies. Course previously offered as VMED 5562.</td>
<td>2</td>
<td>Lab: 4</td>
<td>Professional</td>
<td>Lab</td>
<td>Dean of Veterinary Med</td>
</tr>
<tr>
<td>VMED 7563</td>
<td>Musculoskeletal Systems</td>
<td>Third-year standing in the College of Veterinary Medicine.</td>
<td>Diagnosis and management of intoxications involving plant, chemical and biological toxins. Classroom/Lab Supply &amp; Materials Fee of $40.00 applies. Previously offered as VMED 6563.</td>
<td>3</td>
<td>Lecture: 2 Lab: 2</td>
<td>Professional</td>
<td>Lab, Lecture, Combined lecture and lab</td>
<td>Dean of Veterinary Med</td>
</tr>
<tr>
<td>VMED 7564</td>
<td>Alimentary System</td>
<td>Third-year standing in the College of Veterinary Medicine.</td>
<td>Pathogenesis, diagnosis, pathology, medical and surgical treatment, and prevention of diseases related primarily to the alimentary system. Previously offered as VMED 6574.</td>
<td>4</td>
<td>Lecture: 4</td>
<td>Professional</td>
<td>Lecture</td>
<td>Dean of Veterinary Med</td>
</tr>
</tbody>
</table>
VMED 7571 Introduction to Behavioral Medicine
Prerequisites: Second- or third-year standing in College of Veterinary Medicine. Introduction to behavioral veterinary medicine.
Description: Normal behavior of the dog and cat, basic procedures and methods for diagnosing and treating behavioral problems. Previously offered as VMED 5571.
Credit hours: 1
Contact hours: Lecture: 3
Levels: Professional
Schedule types: Lecture
Department/School: Dean of Veterinary Med

VMED 7581 Zoo and Wildlife Medicine
Prerequisites: Third-year standing in the College of Veterinary Medicine.
Description: Veterinary and preventive management of captive zoo animals, veterinary care and rehabilitation of injured and orphaned free ranging wildlife.
Credit hours: 3
Contact hours: Lecture: 1
Levels: Professional
Schedule types: Lecture
Department/School: Dean of Veterinary Med

VMED 7583 Dermatology and Endocrinology
Prerequisites: Third-year standing in the College of Veterinary Medicine.
Description: Pathogenesis, diagnosis, pathology, medical and surgical treatment, and prevention of diseases related primarily to skin and the endocrine system (nine-week module). Previously offered as VMED 5683.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Professional
Schedule types: Lecture
Department/School: Dean of Veterinary Med

VMED 7591 International Veterinary Medicine
Prerequisites: Second-year or third-year standing in the College of Veterinary Medicine.
Description: Overview of the importance of veterinarians and the wide range of activities in which they participate around the world including the military, public health agencies, humanitarian relief agencies, wildlife preservation groups and faith-based agencies.
Credit hours: 1
Contact hours: Lecture: 1
Levels: Professional
Schedule types: Lecture
Department/School: Dean of Veterinary Med

VMED 7592 Junior Surgery I
Prerequisites: Third-year standing in the College of Veterinary Medicine.
Description: Introduction to fundamental principles of surgery. Didactic material will be followed by surgical laboratories. Previously offered as VMED 7523.
Credit hours: 2
Contact hours: Lecture: 1 Lab: 2
Levels: Professional
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Dean of Veterinary Med

VMED 7601 Junior Surgery II
Prerequisites: Third-year standing in the College of Veterinary Medicine.
Description: Introduction to fundamental principles of surgery. Didactic material will be followed by surgical laboratories. Previously offered as VMED 7523.
Credit hours: 1
Contact hours: Lab: 2
Levels: Professional
Schedule types: Lab
Department/School: Dean of Veterinary Med

VMED 7610 Basic Science Elective
Prerequisites: Second- or third-year standing in the College of Veterinary Medicine.
Description: Problems in the basic sciences taught as lecture or lab. Previously offered as VMED 6610. Offered for variable credit, 1-8 credit hours, maximum of 8 credit hours.
Credit hours: 1-8
Contact hours: Other: 1
Levels: Professional
Schedule types: Independent Study
Department/School: Dean of Veterinary Med

VMED 7612 Clinical Neurology
Prerequisites: Third-year standing in the College of Veterinary Medicine.
Description: Pathogenesis, diagnosis, pathology, medical and surgical treatment and prevention of nervous system diseases.
Credit hours: 2
Contact hours: Lecture: 2
Levels: Professional
Schedule types: Lecture
Department/School: Dean of Veterinary Med

VMED 7614 Cardiopulmonary System
Prerequisites: Third-year standing in the College of Veterinary Medicine.
Description: Pathogenesis, diagnosis, pathology, medical and surgical treatment, and prevention of diseases related primarily to the cardiovascular and respiratory systems.
Credit hours: 4
Contact hours: Lecture: 4
Levels: Professional
Schedule types: Lecture
Department/School: Dean of Veterinary Med

VMED 7620 Clinical Science Elective
Prerequisites: Second- or third-year standing in the College of Veterinary Medicine.
Description: Problems in the clinical sciences taught as lecture or lab. Previously offered as VMED 6620. Offered for variable credit, 1-8 credit hours, maximum of 8 credit hours.
Credit hours: 1-8
Contact hours: Other: 1
Levels: Professional
Schedule types: Independent Study
Department/School: Dean of Veterinary Med
VMED 7631 History of Veterinary Medicine
Prerequisites: Second- or third-year standing in the College of Veterinary Medicine.
Description: History of the veterinary medical profession, especially in North America.
Credit hours: 1
Contact hours: Lecture: 1
Levels: Professional
Schedule types: Lecture
Department/School: Dean of Veterinary Med

VMED 7632 Exercise Physiology
Prerequisites: Second- or third-year standing in the College of Veterinary Medicine.
Description: Current knowledge base pertaining to the acute and chronic adaptations to exercise in domestic animals and current techniques for the evaluation and correction of poor performance. Previously offered as VMED 5632.
Credit hours: 2
Contact hours: Lecture: 3
Levels: Professional
Schedule types: Lecture
Department/School: Dean of Veterinary Med

VMED 7642 Veterinary Sports Medicine
Prerequisites: VMED 7632 and second-year or third-year standing in the College of Veterinary Medicine.
Description: Course will provide the current knowledge pertaining to the diagnosis and treatment of injuries of athletic dogs and horses and causes of poor performance in these species.
Credit hours: 2
Contact hours: Lecture: 2
Levels: Professional
Schedule types: Lecture
Department/School: Dean of Veterinary Med

VMED 7651 Equine Theriogeneology Laboratory
Prerequisites: Third-year standing in the College of Veterinary Medicine.
Description: Introduction to palpation, ultrasonographic examination and breeding preparation of the mare reproductive tract. Additional fee of $300.00 per credit hour applies.
Credit hours: 1
Contact hours: Lab: 3
Levels: Professional
Schedule types: Lab
Department/School: Dean of Veterinary Med

VMED 7652 Introduction to Clinics II
Prerequisites: Third-year standing in the College of Veterinary Medicine.
Description: Rotations through instructional and service areas, including the Veterinary Teaching Hospital of the College of Veterinary Medicine. Classroom/Lab Supply & Materials Fee of $132.00 applies. Previously offered as VMED 6652.
Credit hours: 2
Contact hours: Lab: 8
Levels: Professional
Schedule types: Lab
Department/School: Dean of Veterinary Med

VMED 7661 Infectious and Parasitic Diseases of Wild Animals
Prerequisites: Second- or third-year standing in the College of Veterinary Medicine.
Description: Systematic approach to infectious and parasitic diseases affecting wild animals. Capture, restraint, and disease recognition in wild species, population management implications of disease diagnosis. Previously offered as VMED 5661.
Credit hours: 1
Contact hours: Lecture: 3
Levels: Professional
Schedule types: Lecture
Department/School: Dean of Veterinary Med

VMED 7662 Urinary System
Prerequisites: Third-year standing in the College of Veterinary Medicine.
Description: Pathogenesis, diagnosis, pathology, medical and surgical treatment, and prevention of diseases related primarily to the urinary system.
Credit hours: 2
Contact hours: Lecture: 5
Levels: Professional
Schedule types: Lecture
Department/School: Dean of Veterinary Med

VMED 7671 Clinical Endocrinology II
Prerequisites: Second- or third-year standing in the College of Veterinary Medicine.
Description: Advanced medical endocrinology, focusing on endocrine diseases associated with (1) dysfunction of the endocrine pancreas, (2) selected endocrinopathies of the reproductive system, and (3) therapeutic use of hormones to control reproductive activity of animals.
Credit hours: 1
Contact hours: Lecture: 1
Levels: Professional
Schedule types: Lecture
Department/School: Dean of Veterinary Med

VMED 7674 Theriogenology
Prerequisites: Third-year standing in the College of Veterinary Medicine.
Description: Pathogenesis, diagnosis, pathology, medical and surgical treatment, and prevention of diseases related primarily to the reproductive system. Previously offered as VMED 6674.
Credit hours: 4
Contact hours: Lecture: 4
Levels: Professional
Schedule types: Lecture
Department/School: Dean of Veterinary Med

VMED 7681 Case Studies In Clinical Neurology
Prerequisites: Second- or third-year standing in the College of Veterinary Medicine.
Description: Case based, problem oriented clinical diagnosis, management, treatment and prevention of small animal neurological diseases.
Credit hours: 1
Contact hours: Lecture: 1
Levels: Professional
Schedule types: Lecture
Department/School: Dean of Veterinary Med
VMED 7682 Small Ruminant Production, Management, Medicine and Surgery
Prerequisites: Second- or third-year standing in the College of Veterinary Medicine.
Description: Production, management, medical and surgical diseases of sheep, goats, and llamas used for production and companion animals. Previously offered as VMED 5682.
Credit hours: 2
Contact hours: Lecture: 2
Levels: Professional
Schedule types: Lecture
Department/School: Dean of Veterinary Med

VMED 7691 A Focus on Zoonotic Diseases
Prerequisites: Second- or third-year standing in the College of Veterinary Medicine or consent of instructor.
Description: Overview of zoonotic aspects of infectious diseases, including the transmission to man, incidence and prevalence, prevention and control strategies, assessment of risk, and governmental and regulatory aspects of these public health threats. Diseases of all veterinary species will be balanced according to various aspects of importance, ease of transmission, incidence, and other current concepts.
Credit hours: 1
Contact hours: Lecture: 1
Levels: Professional
Schedule types: Lecture
Department/School: Dean of Veterinary Med

VMED 7701 Small Animal Diagnostic Ultrasound
Prerequisites: Third-year standing in the College of Veterinary Medicine.
Description: An introduction to diagnostic ultrasonography, basic physics of ultrasound production, transmission in tissues, image formation and common artifacts. Recognition of normal organs, organ function, and common diseases that can be diagnosed sonographically in small animals.
Credit hours: 1
Contact hours: Lecture: 10 Lab: 10
Levels: Professional
Schedule types: Lab
Department/School: Dean of Veterinary Med

VMED 7710 Veterinary Study Abroad
Prerequisites: Second- or third-year standing in the College of Veterinary Medicine.
Description: Participation in international animal health activities having an educational component, either through didactic instruction, service learning, workshop participation, and others. Offered for variable credit, 1-3 credit hours, maximum of 3 credit hours.
Credit hours: 1-3
Contact hours: Other: 1
Levels: Professional
Schedule types: Independent Study
Department/School: Dean of Veterinary Med

VMED 7711 Problem-Based Ophtalmology
Prerequisites: Third-year standing in the College of Veterinary Medicine.
Description: Case-based, problem-oriented discussions of small animal and equine ophthalmology cases.
Credit hours: 1
Contact hours: Lecture: 1
Levels: Professional
Schedule types: Lecture
Department/School: Dean of Veterinary Med

VMED 7712 Systemic Pathology: Case Studies and Mechanisms of Disease
Prerequisites: Third-year standing in the College of Veterinary Medicine.
Description: Selected diseases of major organ systems will be approached as an exercise in critical diagnostics thinking. Review of salient pathological responses for each system. Relevant journal articles to emphasize need for continued, self-guided learning.
Credit hours: 2
Contact hours: Lecture: 1 Other: 1
Levels: Professional
Schedule types: Discussion, Combined lecture & discussion, Lecture
Department/School: Dean of Veterinary Med

VMED 7731 Advanced Small Animal Medicine I: Problem-Based Learning
Prerequisites: Third-year standing in the College of Veterinary Medicine.
Description: Case-based problem oriented clinical diagnosis, management, treatment, and prevention of internal medicine diseases common to small animals. Small group format will meet one hour per week at a time determined by the individual groups. Previously offered as VMED 6531.
Credit hours: 1
Contact hours: Lab: 3
Levels: Professional
Schedule types: Lab
Department/School: Dean of Veterinary Med

VMED 7732 Advanced Oncology
Prerequisites: Third-year standing in the College of Veterinary Medicine.
Description: Reviews the diagnosis, staging, and treatment of common neoplasms in small animal veterinary medicine. The course presents a systemic approach to the cancer patient, proper collection, submission, and evaluation of diagnostic samples, and development of rational therapeutic plans. Previously offered as VMED 6532.
Credit hours: 2
Contact hours: Lecture: 2
Levels: Professional
Schedule types: Lecture
Department/School: Dean of Veterinary Med

VMED 7742 Bovine Theriogenology Laboratory
Prerequisites: Third-year standing in the College of Veterinary Medicine.
Description: Palpation techniques in cows. An elective restricted to students entering food animal practice. Classroom/Lab Supply & Materials Fee of $250.00 applies. Previously offered as VMED 7741.
Credit hours: 2
Contact hours: Lab: 4
Levels: Professional
Schedule types: Lab
Department/School: Dean of Veterinary Med
VMED 7761 Introduction to Integrative Medicine: An Investigation into Holistic Veterinary Medicine

Prerequisites: Third-year standing in the College of Veterinary Medicine.

Description: This course will provide an overview of current modalities being utilized as alternative therapies in Veterinary Medicine. The student will gain an appreciation for the importance of complementary medicine, and the evidence available to support its use. Students will also gain an understanding of critically assessing the research available and determining whether the information is clinically relevant.

Credit hours: 1
Contact hours: Lecture: 1
Levels: Professional
Schedule types: Lecture
Department/School: Dean of Veterinary Med

VMED 7771 Advanced Equine Medicine I

Prerequisites: Third-year standing in the College of Veterinary Medicine.

Description: Expanded study of topics pertinent to equine practice. Supplements information presented in core sources and aims to provide exposure to basic clinical techniques commonly used in equine practice. A clinical practice perspective will be emphasized. Hands-on laboratories will be used as an adjunct to lectures when appropriate. A companion course will be presented during spring semester. Graded on a pass-fail basis. Additional fee of $450.00 per credit hour applies.

Credit hours: 1
Contact hours: Lecture: 1
Levels: Professional
Schedule types: Lecture
Department/School: Dean of Veterinary Med

VMED 7781 Professional Veterinary Medicine

Prerequisites: Third-year standing in the College of Veterinary Medicine.

Description: A capstone course preparing third-year veterinary students for clinical training. Topics include: non-technical skills, knowledge, aptitudes, and attitudes; veterinary career opportunities in public practice, and preparation for the North American Veterinary Licensing Examination (NAVLE).

Credit hours: 1
Contact hours: Lecture: 1
Levels: Graduate, Professional
Schedule types: Lecture
Department/School: Dean of Veterinary Med

VMED 7791 Case Studies in Small Animal Dermatology

Prerequisites: Third-year standing in the College of Veterinary Medicine.

Description: Clinic conference/rounds on dermatology cases. Includes histopathology. Computer/multi-media applications will be used.

Credit hours: 1
Contact hours: Lecture: 1
Levels: Professional
Schedule types: Lecture
Department/School: Dean of Veterinary Med

VMED 7801 Business Management for Veterinary Practice

Prerequisites: Third-year standing in the College of Veterinary Medicine. VMED 7521 recommended.

Description: Business and financial management of private veterinary practice. Course previously offered as VMED 6601.

Credit hours: 1
Contact hours: Lecture: 1
Levels: Professional
Schedule types: Lecture
Department/School: Dean of Veterinary Med

VMED 7811 Advanced Equine Medicine II

Prerequisites: Third-year standing in the College of Veterinary Medicine and VMED 7771.

Description: A continuation of VMED 7771. Expanded study of topics pertinent to equine practice. Supplements information presented in core sources and aims to provide exposure to basic clinical techniques commonly used in equine practice. A clinical practice perspective will be emphasized. Hands-on laboratories will be used as an adjunct to lectures when appropriate. Graded on a pass-fail basis.

Credit hours: 1
Contact hours: Lecture: 1
Levels: Professional
Schedule types: Lecture
Department/School: Dean of Veterinary Med

VMED 7821 Equine Radiology

Prerequisites: Third-year standing in the College of Veterinary Medicine.

Description: Diagnostic imaging (radiology, nuclear scintigraphy and ultrasound) of horses.

Credit hours: 1
Contact hours: Lecture: 1 Lab: 0
Levels: Professional
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Dean of Veterinary Med

VMED 7822 Food Animal Production Medicine

Prerequisites: Third-year standing in the College of Veterinary Medicine.

Description: Production animal agriculture and the veterinarian's present and future role in these enterprises. Cattle production is emphasized. Cycles of production, economics and health programs will be discussed. For students intending to enter mixed animal or exclusive food animal practices. Course previously offered as VMED 6622.

Credit hours: 2
Contact hours: Lecture: 2
Levels: Professional
Schedule types: Lecture
Department/School: Dean of Veterinary Med

VMED 7831 Advanced Small Animal Medicine II: Problem-Based Learning

Prerequisites: Third-year standing in the College of Veterinary Medicine.

Description: Case-based, problem oriented clinical diagnosis, management, treatment, and prevention of internal medicine diseases common to small animals. Small group format will meet one hour weekly at a time determined by the individual groups. Course previously offered as VMED 6631.

Credit hours: 1
Contact hours: Lecture: 1
Levels: Professional
Schedule types: Lecture
Department/School: Dean of Veterinary Med

VMED 7841 Food Animal Surgery

Prerequisites: Third-year standing in the College of Veterinary Medicine.

Description: Detailed examination and review of commonly utilized local anesthetic techniques, injectable anesthetic techniques, and surgical procedures in food animal practice. Major topics include digital, mammary, gastrointestinal, and urethral surgery as well as cesarean section. Course previously offered as VMED 6641.

Credit hours: 1
Contact hours: Lecture: 1
Levels: Professional
Schedule types: Lecture
Department/School: Dean of Veterinary Med
VMED 7842 Special Surgical Problems and Technique, Advanced Wound Management & Intro to Reconstructive Surgery
Prerequisites: Third-year standing in the College of Veterinary Medicine.
Description: Principles of wound management and reconstructive surgery. Lecture and laboratory format. Course previously offered as VMED 6642.
Credit hours: 2
Contact hours: Lecture: 2 Lab: 0
Levels: Professional
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Dean of Veterinary Med

VMED 7861 Cytology
Prerequisites: Third-year standing in the College of Veterinary Medicine.
Description: An introduction to clinical diagnosis using cytology. Topics include sample collection, inflammatory lesions, neoplasia, lymph node cytology, respiratory washes, synovial fluids, and body cavity effusions. The course consists of lectures, multi-head microscope and individual microscope laboratories; cases will be predominantly small animals.
Credit hours: 1
Contact hours: Lecture: 1 Lab: 0
Levels: Professional
Schedule types: Lab
Department/School: Dean of Veterinary Med

VMED 7871 Advanced Equine Reproduction
Prerequisites: Third-year student in the veterinary medicine curriculum.
Description: The practical application of recent research in the breeding management, estrous cycle manipulation, and reproductive disease diagnosis and treatment of the mare. The stallion will be studied with respect to semen quality, endocrine-associated infertility, and breeding accidents and injuries. Course previously offered as VMED 6671.
Credit hours: 1
Contact hours: Lecture: 1 Lab: 0
Levels: Professional
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Dean of Veterinary Med

VMED 7872 Special Surgical Problems and Techniques, Advanced Small Animal Orthopedics and Neurosurgery
Prerequisites: Third-year standing in the College of Veterinary Medicine.
Description: Diagnosis and surgical management of small animal orthopedic and neurological diseases. Lecture and laboratory format. Course previously offered as VMED 6672.
Credit hours: 2
Contact hours: Lecture: 2 Lab: 0
Levels: Professional
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Dean of Veterinary Med

VMED 7891 Equine Surgical Laboratory
Prerequisites: Third-year standing in the College of Veterinary Medicine.
Description: Surgical techniques directly supervised by the instructor. Fundamental enclosed surgical techniques. Abdominal procedures on live animals. Orthopedic procedures on cadaveric limbs. Course previously offered as VMED 6691.
Credit hours: 1
Contact hours: Lab: 3
Levels: Professional
Schedule types: Lab
Department/School: Dean of Veterinary Med

VMED 7933 Diagnostics
Prerequisites: Fourth-year standing in the College of Veterinary Medicine.
Description: Participation in animal necropsy, clinical pathology, clinical parasitology, and other investigative methods to study diagnosis, prognosis, prevention, and treatment of animals. Additional fee of $25.00 per credit hour applies. Course previously offered as VMED 6733.
Credit hours: 3
Contact hours: Lab: 6
Levels: Professional
Schedule types: Lab
Department/School: Dean of Veterinary Med

VMED 7941 Clinical Skills Outcomes Assessment
Prerequisites: Fourth-year standing in the College of Veterinary Medicine.
Description: Assessment of clinical skills using checklists and/or brief case summaries.
Credit hours: 1
Contact hours: Other: 1
Levels: Professional
Schedule types: Independent Study
Department/School: Dean of Veterinary Med