Veterinary Medicine and Surgery

140 **Companion Animals.** Same as Animal Science 140). Focus on companion dog, cat, horse owners concerns re: health, zoonoses, legal responsibilities, inbreeding, choice of breeds, behavioral problems and loss of companion animals.

230 **Animal Sanitation and Disease Prevention** (Fall only). (3) Preventative measures for disease and parasites of farm animals.

300 **Problems** (cr. arr.). Studies in specific areas of veterinary medicine and surgery.

302 **Topics** (cr. arr.). Organized study of select topics. Prerequisites: junior standing and instructor’s consent.

303 **Advanced Topics in Veterinary Anesthesia** (1). (Same as VMS 699D.)

304 **Advanced Equine Surgery** (2). The purpose of the course is to aid in the preparation of the resident for Board certification in the American College of Veterinary Surgeons. Prerequisites include a DVM or equivalent degree, acceptance to the graduate school, acceptance to the residency program, and instructor approval.

321 **Expert Systems** (3). Same as CS 321 Expert Systems. Introduction to the use of expert systems, designed for graduate students from any department. Students create prototype expert systems under close supervision by faculty experts. Prerequisite: departmental consent. (Same as Computer Science, Sociology and Anthropology 321.)

328 **Introductory Radiation Biology** (3). Same as Nuclear Engineering 328, Radiology 328, Biological Sciences 328. Prerequisite: junior standing sciences/engineering: one course in biological sciences and physics/chemistry; or instructor’s consent.

351 **Advanced Surgical Techniques** (cr. arr.). Special application to large, small animals. Prerequisite: DVM.

355 **Advanced Techniques in Radiology** (cr. arr.). Special application to domestic animals. Prerequisite: DVM.

400 **Problems in Veterinary Clinical Sciences** (1-3). Supervised individuals studies arranged with a faculty member and approved by the advisory committee.

401 **Topics in Clinical Veterinary Sciences** (1-3). Current topics, infrequently-taught courses, or new courses not yet designated by a permanent course number.

402 **Seminars in Veterinary Clinical Sciences** (1). Graduate seminars and conferences with a focus on current literature within a specialty area. Graded on S/U basis only.

402A **Seminars in Veterinary Medicine and Surgery-Neurology Seminar and Journal Review** (1). Weekly journal review and seminar on current topics in veterinary neurology, related clinical disciplines, and basic neurosciences. Prerequisites: DVM degree. Graded on A-F basis only.

402B **Internal Medicine Clinicopathologic Conference** (1). Graded on S/U basis only.

402C **Internal Medicine Journal Review** (1). Graded on S/U basis only.

402D **Medicine-Surgery-Pathology Conference** (1). Graded on S/U basis only.

402E **Equine Medicine Journal Review** (1). Graded on S/U basis only.

402F **Surgery Journal Review** (1). Graded on S/U basis only.

402G **Food Animal Medicine Journal Review** (1). Graded on S/U basis only.

402H **Cardiovascular Medicine Journal Review** (1).

402I **Emergency and Critical Care Journal Review** (1). This course will concentrate on review of emergency and critical care literature. Prerequisite: DVM degree. Graded on S/U basis only.

402J **Seminars in Veterinary Medicine and Surgery-Ophthalmology Pathology Seminar** (1). Review of clinical cases presented in two formats: histopathology slides and kodachrome slides. Prerequisite: DVM degree or equivalent and acceptance into an ophthalmology residency program. Graded on S/U basis only.

402K **Seminars in Veterinary Medicine and Surgery-Ophthalmology Seminar and Journal Review** (1). Weekly journal review and seminar on current topics in veterinary ophthalmology, review of pertinent literature in human ophthalmology, and review of ophthalmic texts. Prerequisite: DVM or equivalent degree and acceptance into the ophthalmology residency program. Graded on S/U basis only.

402L **Seminars in Veterinary Anesthesiology** (1). A journal review will focus on advances in veterinary anesthesiology, pharmacology, and physiology. Prerequisites: DVM and graduate school enrollment or instructor’s consent. Graded on S/U basis only.

402M **Seminars in Clinical Sciences** (1). Journal review will focus on advances in equine surgery and will consist of a review of recent manuscripts pertaining to equine surgery in current journals and review of pertinent book chapters. Graded on S/U basis only.
Comparative Respiratory Pathophysiology (1). A consideration of clinical pathophysiology of the respiratory system relative to diseases of the thorax and clinical anesthesiology.

Veterinary Medicine and Surgery Research Seminar (1). Current research in veterinary medicine and surgery. Literature reviews and presentation or original graduate student research.

Clinical Veterinary Endocrinology (2). Graduate standing required. A 2-hour course for post-DMV graduate students. It will focus on clinically relevant physiology, pathophysiology, and diagnostic evaluation of hormone systems.

Equine Internal Medicine (2). Prerequisite: DVM degree or equivalent.

Advanced Veterinary Internal Medicine-Neurology (2). Basic neuroscience as it relates to clinical neurology and the pathophysiology of diseases of the brain, spinal cord, peripheral nerve and muscle in domestic animals. Prerequisites: DVM degree. A/F grading only.

Advanced Veterinary Internal Medicine-Cardiovascular Medicine (3). Graduate standing required. Pathologic, pathophysiologic, hemodynamic, and pharmacologic mechanisms of important to the diagnosis, assessment, management, and research of cardiovascular diseases of animals.

Advanced Veterinary Internal Medicine-Clinical Oncology (2). Provides graduate students in the clinical and basic sciences alike with a working knowledge of the biological mechanisms of cancer development and progression and the related approaches to cancer prevention and therapy. It is assumed that students will have a strong background in biology as a foundation for discussions. Prerequisites: graduate standing; DVM or equivalent degree recommended.

Advanced Veterinary Internal Medicine: Food Animal Medicine (2). Current concepts in the pathophysiology, diagnosis, and management of medical disorders, diseases of the limbs, and infectious diseases of cattle and food producing animals.


Comparative Arthrology (3). Lectures and discussion covering anatomy, physiology, biomechanics, pathophysiology, and mammalian diarthrodial joints.

Advanced Veterinary Surgery: Equine Surgery (2-4). Current concepts in the pathophysiology, diagnosis, and management of surgical disorders of the horse. Taught yearly as sections A, B, C. Repeatable to a maximum of 10 credit hours (individual sections may be taken once).

Advanced Veterinary Surgery-Ophthalmic Surgery (2-4). Surgery labs consisting of 2-4 hours of surgical instruction per week. Prerequisite: DVM or equivalent degree and acceptance into the ophthalmology residency program. Graded on A/F basis only.

Medical Informatics (3). Examines clinical research and administrative application of the computer in health services delivery. Provides an introduction to medical informatics. Prerequisite: appropriate class in computer methods/application or instructor’s consent. (Same as HSM 430 Computer Applications in Health Services.)

Research Methods and Data Analysis (2-4). A consideration of research methods, data analysis, and practical approaches to analyzing data sets derived from veterinary and biomedical studies. (Same as Veterinary Pathobiology 431.)

Veterinary Clinical Sciences: Clinical Immunology (2). Advanced concepts in veterinary immunology and immunopathology.

Veterinary Clinical Sciences: Clinical Pharmacology (1). Advanced concepts in veterinary clinical pharmacology, pharmacokinetics, and anesthesiology.

Advanced Topics in Veterinary Medicine (Nuclear Medicine) (1). An in-depth review of veterinary nuclear medicine. Includes the physics of nuclear medicine, common imaging techniques, common radiopharmaceuticals, radiopharmaceutical kinetic evaluation, and some common physiological applications. Graduate standing required.

Advanced Veterinary Ultrasonography (2-3). Advanced concepts in veterinary ultrasonography; including ultrasound and Doppler physics, instrumentation, examination methodology, and interpretation of studies.

Advanced Veterinary Clinical Sciences-Advanced Clinical Ophthalmology (1-3). Case-based discussion course. Prerequisite: DVM or equivalent degree and acceptance into the ophthalmology residency program. Graded on A/F basis only.

Veterinary Critical Care and Emergency Medicine (2-3). Advanced study of veterinary critical care and emergency medicine and surgery focusing on current research and literature as well as clinical application.
Research (cr. arr.). (Non-thesis.) Open to graduate students with requisite preparation.

Nuclear Medicine (3). Principles of radiation detection instrumentation, monitoring radiological safety, and diagnostic procedures used in veterinary nuclear medicine. Prerequisite: one year college physics, DVM degree, and departmental consent.

Radiation Therapy (3). Prerequisite: one year college physics, DVM degree, and departmental consent.

Research (cr. arr.). (Thesis.)

Problems (cr. arr.). Studies in specific areas of veterinary medicine and surgery.

Veterinary Radiology (2). Instructional period 8. Introduces through lectures and demonstrations the principles of radiographic examination and interpretation of disease processes of domestic animals.

Veterinary Anesthesiology (2). Instructional period 9. Basic principles of anesthesiology for any species of domestic and exotic animals.

Companion Animal Medicine (4). Instructional period 9. Covers basic principles of veterinary internal medicine and selected sub disciplines.

Small Animal Medicine (2.5). Instructional period 10. Didactic presentations regarding pathophysiology, diagnosis, and therapeutic management of organ system diseases in small animals.

Small Animal Surgery (2). Instructional period 9. Basic principles including suture materials and patterns; operative techniques, wound healing of soft tissue surgery.

Small Animal Surgery (2). Instructional period 10. Continuation of 606 lectures, focusing primarily on orthopedics.

Conventional Surgery and Anesthesia Laboratory (0.5). Designed to teach entry-level surgical and anesthesia skills terminal procedures. Instructional period 10.

Fundamental Surgery and Anesthesia Laboratory (0.5). Instructional period 10. Designed to teach entry-level surgical and anesthesia skills using cadavers and survival spay and neuter procedures. This laboratory is offered as a substitute to VMS 607B for students with objections to participating in terminal procedure laboratories.

Food Animal Medicine and Surgery (4). Instructional Period 10. Covers the important diseases of cattle, goats, sheep, and swine Recognition, management and prevention of diseases are stressed.

Small Animal Critical Care (1). Instructional period 10. Basic principles of emergency and critical care of companion animals.

Equine Medicine and Surgery (3). Instructional period 11. Covers the fundamentals of diseases of the equine species. Case Management approaches are utilized to provide examples of disease conditions.

Theriogenology (3). Instructional period 11. Fundamentals for reproductive function of domestic animals, medical, and surgical management of diseases of reproductive systems.

Veterinary Ophthalmology (1). Instructional period 11. Covers examination, diagnostic procedures, and treatment of important eye diseases of domestic animals.

Fundamentals of Veterinary Business Management (1). To realistically present to the second-year veterinary student a basic explanation of the essential need for a strong base of knowledge pertaining to business and management in order to successfully operate a veterinary practice.


Small Animal Medicine I (6). Six times per year. Practical discussion of medical diseases of dogs, cats, and exotic pets as they affect body systems. Practical experience in the operation of a small animal hospital and outpatient practice.


Small Animal Surgery I (6). Six times per year. Diagnostic procedures and surgical techniques applicable to companion animal surgery. Practical experience in the operation of a small animal surgical practice.

Clinical Radiology I (3). Twelve times per year. Fundamentals of radiology: indications for use, techniques, pathophysiologic alterations, interpretation of results, patient aftercare, protective measures against radiation hazards.

Clinical Anesthesiology I (3). Twelve times per year. Fundamentals of anesthesiology: indications for use, techniques, pathophysiologic alterations, and interpretation of results, patient aftercare.


**Theriogenology I** (2). Eighteen times per year. Practical experience in reproductive techniques, obstetrics, breeding soundness, and heard reproductive problems.

**Clinical Ophthalmology I** (2). Eighteen times per year. Practical application in problem solving and medical and surgical management of eye conditions of domestic animals.

**Small Animal Specialty Medicine I** (2). Eighteen times per year. Clinical rotation in small animal oncology. Taught in the clinical setting using animals presented to the VMTH for evaluation and treatment of oncologic diseases.

**Food Animal Medicine and Surgery II** (2-6). Prerequisite: VMS 640.

**Small Animal Medicine II** (2-6). Continuation elective offered to 3rd- and 4th-year students. Opportunity for concentrated study and experience in medical areas. Enrollment subject to approval of course coordinator. Prerequisite: 641.

**Equine Medicine and Surgery II** (2-6). Continuation of VMS 642. Open to 3rd- and 4th year students, subject to approval of course coordinator. Opportunity for concentration in specific area of interest.

**Small Animal Surgery II** (2-6). Prerequisite: VMS 643 or equivalent. Opportunity for concentrated study and advanced surgical experience.

**Clinical Radiology II** (2-6). Continuation of VMS 644A.

**Clinical Anesthesiology II** (2-6). Continuation of VMS 644B. This elective will focus on anesthetizing and monitoring the more challenging anesthetic cases during rotation. Required projects include a review paper on a relevant topic of choice, a written case report and assistance in research activities.

**Theriogenology II** (2-6). Continuation of the prerequisite VMS 645. Opportunity for concentrated study and experience. An elective, subject to approval of course coordinator and faculty member(s) who supervise student’s work.

**Herd Health Management and Nutrition II** (2-6). Prerequisite: VMS 640 and VM-4 status. Concentrated study/experience in feed lot, dairy, cow/calf, swine herd agribusiness enterprises applicable to veterinary practice.

**Clinical Ophthalmology II** (2-6). Opportunity for concentrated study and experience. An elective, subject to approval of course coordinator and faculty member(s) who supervise student’s work.

**Small Animal Emergency and Critical Care** (2-6). Elective offered to 3rd and 4th year veterinary students. Opportunity for concentrated study and experience in small animal emergency and critical care.

**Food Animal Production Medicine** (2-6). This 8-week rotation will focus on the reproductive, metabolic and immunologic physiology of beef, dairy and swine with additional emphasis on spreadsheet and data base applications.

**Small Animal Specialty Medicine II** (2-6). Clinical rotation in small animal oncology. Taught in the clinical setting using animals presented to the VMTH for evaluation and treatment of oncologic diseases.

**Electives in Medicine or Surgery** (cr. arr.). Instructional period 11.