ADVANCED DIAGNOSTIC IMAGING
Course Coordinators: Dr. F. Morandi (coordinator) Dr. S. Hecht & instructors
Credit Hours – 2 (VMD 887) CRN Section # 011 Wednesday & Friday 12 -1 Room A335A

This course is designed to introduce the student to imaging modalities and procedures not covered in the General Radiology Course VMD855 and will provide an introduction to CT, MR, and nuclear. (Ultrasound will not be covered since it is a separate elective.) Because of the recent advancements in diagnostic imaging and the increased number of specialty practices, advanced imaging studies are being requested by veterinarians more commonly. Having a basic understanding of the principles of imaging, knowledge of the commonly performed procedures and their advantages and limitations will help in deciding when it is appropriate to request these studies. The course will consist of lectures and image interpretation sessions on CT, MR and nuclear medicine; at the end of the course, students will have gained a basic knowledge of the indications and contraindications of CT, MR and nuclear medicine; and will be able to interpret the most commonly performed CT, MR and nuclear medicine studies. Considering the variety of subjects there will be no textbook recommended, however specific reading assignment will be provided (book chapters, journal articles and lecture notes). Grades will be based on attendance (40%), participation during case interpretation (30%) and a term paper (30%).

Minimum enrollment – 5, Maximum enrollment – 20

ADVANCED SMALL ANIMAL ORTHOPEDICS
Course Coordinators: Drs. J. Weigel & D. Millis
Credit Hours - 2 (VMD 887) CRN Section # 001 Friday 8 – 11 JARTU

The purpose of this course is to expose the veterinary student to basic small animal surgical orthopedics. The laboratory exercises will include stifle and hip surgery, and fracture stabilization techniques using plates, external fixation splints, and pins. All exercises involve cadaver specimens with emphasis on surgical anatomy and proper use of orthopedic instruments and implants. Successful completion of this course does not certify clinical competency in these techniques.

Maximum enrollment – 12

ADVANCED SOFT TISSUE SURGERY
Course Coordinator: Dr. K. Tobias
Credit Hours – 1 (VMD 887) CRN Section # 002 Monday – 1- 5 for 5 sessions at JARTU

Through lectures and laboratories, this course will present a variety of soft tissue surgery topics and procedures commonly performed on dogs and cats by private practitioners. These cadaver laboratories will focus on perineal, head, neck, and skin procedures, including urethrostomies, ear canal resections, skin flaps, anal sacculectomies, esophageal feeding tubes, and perineal hernia repair. The course grade will be determined by examination, laboratory performance, or assigned projects and will also be based on attendance.

Minimum enrollment – 6, Maximum enrollment – 24
CAMELID (Offered to both Sophomore & Junior Students with first choice to juniors)
Course Coordinator: Dr. R. Videla  
Credit Hours – 1 (VMD 897)  CRN  Section # 003 Tuesday 8 – 9  Room C100

If you are going into mixed practice you will probably be dealing with camelids as their numbers are increasing, particularly alpacas. These animals are seen as an investment and may be quite valuable, which allows many owners to spend a significant amount of money on veterinary care. Alpaca and llama owners generally demand excellent care and many of them are well read. The current curriculum here at UT offers little information on camelids, except for what you may see in the clinics and the information offered in this elective. The goal of this course is to familiarize you with camelid handling, management, and their most common medical problems.

Minimum enrollment: 5, Maximum enrollment: 15

CASE DISCUSSION IN EQUINE INTERNAL MEDICINE
Course Coordinators: Dr. K. McCormick (coordinator) & Dr. M. Hines
Credit Hours – 1 (VMD 897)  CRN  Section # 002 Thursday 10 - 12  Room C205

This course will: 1) incorporate information from other courses into discussions of equine internal medicine cases; 2) encourage the development of effective problem-solving skills by forcing students to make decisions regarding the management of cases; 3) provide instruction in areas of equine internal medicine that are only briefly discussed in other courses. Students will be expected to participate in classroom discussions and complete at least one examination. The course will be conducted using an interactive format, so attendance will be taken.

Minimum enrollment: 8, Maximum enrollment: 25

CLINICAL MICROBIOLOGY LABORATORY (Offered to both Sophomore & Junior Students)
Course Coordinators: Drs. D. Bemis, M. Kennedy, S. Kania
Credit Hours – 1 or 2 credit hours (VMD 867)  CRN  Section # 002 TBD

This course will be tailored to meet the needs of individual students wanting advanced exposure to techniques and procedures of modern microbiology. Areas of study can involve bacteriology, mycology, virology, and/or immunology. Independent and directed work totaling 2-4 hours per week will be required; times will be set between the student(s) and the instructors.

Maximum enrollment is varied; individual laboratories cannot normally accommodate more than 3 students during the same time period. (Prior arrangements with instructors required).

CULTURAL INFLUENCES ON ANIMAL HEALTH CARE (Offered to both Sophomore & Junior Students- with first choice to juniors)
Course Coordinators: Dr. Ng & Ms. T. Fisher
Credit Hours – 1 (VMD 897)  CRN  Section # 009 Wednesday 12-1  Tickle Conference Room

The Cultural Awareness elective introduces veterinary students to cultural differences that may impact the receptiveness of pet owners to the veterinary medical care of their animals. The course will include seminars, field experiences and class reading assignments. The elective will explore various cultures and groups, including underserved populations (elderly, homeless, disabled, low income) and cultures (Native American, Appalachian, Latino, and African American). In addition, we will learn about animal perspectives of several religions and veterinary care for animals of military families. Students will attend a wellness event for pets of homeless people as part of the elective.

Minimum enrollment: 5, Maximum enrollment: 15
EQUINE DENTISTRY (Offered to both Sophomore & Junior Students with first choice to juniors)
Course Coordinator: Dr. Eric Martin
Credit Hours – 1 (VMD 897)  CRN  Section # 010  Tuesday 8 – 10  Sequoyah Room

Equine Dentistry is designed to help improve your knowledge in dental hygiene and disease in horses. It will consist of a mixture of lectures and labs with more lectures than labs. It is open to both the 3rd and 2nd year students with the 3rd year students getting first preference.

Minimum enrollment – 4, Maximum enrollment – 15

INTRODUCTION TO LARGE ANIMAL ULTRASOUND
Course Coordinator: Dr. C. Sommardahl
Credit Hours – 1 (VMD 897)  CRN  Section # 008 Tuesday 8 – 10  Room A335

Students will learn the basic techniques of ultrasound as a diagnostic tool in large animal veterinary medicine. The elective will cover abdominal, thoracic, and tendon ultrasound techniques along with ultrasound of swellings, masses, etc. The students will learn the basics of the ultrasound machine and be able to use different types of machines available. There will be a lecture at the beginning of each class, then a laboratory to view the ultrasound techniques and perform them.

This course is limited to those that have not taken this elective already. Priority goes to the students on the fall alternate list.

Minimum enrollment – None - Maximum enrollment – 12

ISSUES & OPPORTUNITIES IN SHELTER MEDICINE
(Offered to both Sophomore & Junior Students)
Course Coordinators: T’ Fisher and Ashley Cogavan
Credit Hours – 1 (VMD 887)  CRN  Section # 003
Tues/Thursday 12 – 1 (Jan. 11 & Jan 16 + CE)  Tickle Conference Room

There will be three 2 hour lectures/discussion sections on topics related to animal sheltering, geared towards helping the student understand and be able to become involved in animal shelter medicine in his or her community upon graduation. The student will be expected to participate in at least 9 hrs. of clinical exposure at Young Williams Animal Center including: Dog Adoption Floor Screening, Community Spay/Neuter Programs, Animal Intake - Lost & Found, Animal Adoptions, Animal Control, and Veterinary Clinic.

There is no required textbook, but, Shelter Medicine for Veterinarians and Staff is strongly suggested.

Minimum enrollment – 5, Maximum enrollment – 20

PRACTICE MANAGEMENT
Course Coordinator: Mr. Jon Dittrich
Credit Hours – 1 (VMD 887)  CRN  Section # 005 Tuesday 12 – 1  Room A335

Mission Statement: To prepare new veterinarians for the business of their practice.
Five primary focuses are:
- What is going on in the veterinarian industry?
- What are the important decisions about working as an associate veterinarian?
- What are the major decisions about buying into an existing practice?
- What are the critical decisions about starting a new practice from scratch?
- What tools can a veterinarian use to make the above decisions?

Minimum enrollment – 5 – Maximum enrollment - none
RESPONSIBLE PET OWNERSHIP (Offered to both Sophomore & Junior Students)
Course Coordinators: Dr. Ng & T. Fisher
Credit Hours – 1 (VMD 867) CRN Section # 001 Monday & Friday 12 – 1 Tickle Conference Room

Millions of dogs and cats are killed annually in shelters because they develop behavioral problems that the owners cannot deal with. Veterinarians are the best resource to counsel owners but owner education cannot be limited to the veterinary clinic. Responsible pet ownership needs to be the focus of community education. This course will provide veterinary students with a knowledge base and access to resource materials that will allow them to prepare and implement public education programs on various aspects of responsible pet ownership. Two of the purposes of this course are to: 1) provide the community with high quality programs on responsible pet ownership and 2) to provide an opportunity for veterinary students to further develop their communication skills. Course will be taught from noon to 12:50 pm on a mutually convenient day.

Minimum enrollment – 5, Maximum enrollment - None

SEMINARS IN ZOOLOGICAL MEDICINE
Course Coordinators: Drs. Cushing or Ramsay (coordinator)
Credit Hours – 1 (VMD 887) CRN Section # 007 Thursday 12 – 1 Room A335

This course will cover advanced topics including conservation, medicine and surgery of captive and free-ranging primates, with an emphasis on common species. The course will be a mixture of lectures presented by faculty and seminars presented by the participants. The elective includes a visit to the primate department at the local zoological facility. Grading will be based on attendance, participation, and seminar presentation. The elective will be taught from noon to 12:50 PM on Thursday.

Minimum enrollment – 5, Maximum enrollment – 15

SKELETAL MODELING COURSE
(Offered to both Sophomore & Junior Students with first choice to juniors)
Course Coordinators: Drs. Joseph Weigel & Robert Reed
Credit Hours - 1 (VMD ) CRN Tuesday 8 – 10 Anatomy Lab

The purpose of the course is to build in the veterinary medical student a mental repository of 3D perspectives of skeletal anatomy for use in the interpretation of diagnostic images, as well as for use in the execution of certain surgical procedures. We propose meeting this purpose by providing an experiential-based set of exercises in the sculpturing and modeling of selected bones in clay. This course is elective and not intended to replace any existing anatomy, radiology, or surgery course.

Minimum enrollment - 4 Maximum enrollment – 8

SMALL ANIMAL BEHAVIORAL TOPICS
Course Coordinator: Dr J. Albright
Credit Hours – 1 (VMD 887) – CRN Tuesday & Thursday 12 – 1 Room C205

This course provides in-depth discussion and behavior modification skill practice for common behavioral issues of the cat and dog. Material is presented through clinical case discussion and laboratories at UTCVM and other animal facilities (e.g., animal shelter, research laboratory, zoo). Students must satisfactorily participate in all activities and write topic paper at the end of course.
Grading P/NP

Minimum enrollment – None, Maximum enrollment - No Limit
SA MEDICAL: APPROACH TO PROBLEM SOLVING
Course Coordinator: Dr. Jennifer Stokes
Credit Hours – 1 (VMD 887) CRN Tuesday 8 – 10 Room Tickle Conf Room

Topics will include anemia, protein-losing enteropathy, fever of unknown origin, effusive disease (pleural +/-abdominal), and gastrointestinal disease. During the semester 5 or 6 cases will be presented and discussed, primarily in a group fashion. By the end of the course students should be able to 1) develop an accurate problem list of primary problems, 2) develop an accurate differential diagnoses list, 3) develop an accurate 1st and 2nd tier diagnostic plan. All goals are in the context of the patient’s signalment, history, physical exam findings +/- diagnostic test results. Performance will be evaluated by attendance.

Minimum enrollment – 6, Maximum enrollment - 12

SMALL ANIMAL ULTRASOUND
Course Coordinators: Dr. S. Hecht (Coordinator), Dr. M. de Swarte
Credit Hours – 1 (VMD 887) CRN Section # 009 Wednesday 8-10 Room A335

This course consists of 12 lectures and labs (number TBD based on number of students enrolled) that introduce the students to basic diagnostic ultrasound imaging and common sonographic findings in a variety of diseases of small animals. Students will acquire a basic knowledge of how diagnostic ultrasound is used in examination of the canine and feline abdomen, thorax and superficial structures (e.g. neck, musculoskeletal). Hands on labs will introduce the students to basic operations of diagnostic ultrasound scanner using phantoms and live dogs. Students will be able to interpret normal and entry-level abnormal ultrasound images of small animal patients. A final examination is given during the last class period to demonstrate the knowledge acquired during the course.

Minimum enrollment 5, Maximum enrollment - none

SMALL ANIMAL DENTAL EDUCATION – Online Elective
Administered by the University of Illinois – Coordinated by Dr. Kirk
Credit Hours - 1 (VMD 887) CRN
Online and Self-directed – On-line access - late Jan. as dictated by host.

* NB: The UOI Host allows access to online materials beyond the UT due date. This is NOT the course due date. It is beyond dates for UT final grades and you will not receive credit for work submitted after UT due dates for the course, noted below.

This course is an intensive study of modern dentistry techniques for dogs and cats. Each of the 10 modules stresses the importance of a thorough working knowledge of canine and feline dental and paradental anatomy in the recognition and treatment of dental problems in dogs and cats. Clinical applications of anatomic information are utilized to reinforce important concepts. Specific topics feature dental pathology, radiology, extractions, and periodontal disease. The study modules are composed of PowerPoint slides with readable content. A quiz with minimum passing rate is required on each module prior to moving to the next phase. Students are given a Certificate of Dental Education upon completion of all 10 modules. Grading is A-F depending on the number of passing modules. The UT course model completion is due (Last day of Class):
Juniors due April 1, 2018
Sophomores due - April 27, 2018

Minimum – 0 Maximum – 40 (20 Fall / 20 Spring)
SURGICAL PATHOLOGY  
Course Coordinator: Dr. S. Newman  
Credit Hours – 1 (VMD 877)  **CRN**  Section # 001  Wednesday 10 – 11  Room A301A  

The objective of this course is to introduce students to the joys of surgical pathology. Surgical biopsy specimens submitted from UTCVM and outside practitioners will be examined and discussed with a pathologist at the multi-headed microscope for one hour per week. Students will be taught to describe, diagnose, and review the literature regarding selected cases. The scope of this course will be determined by the case materials submitted to the surgical biopsy service.  

**Minimum enrollment – 1, Maximum enrollment – 5**

THERIOGENOLOGY  
Course Coordinator: Dr. T. Prado  
Credit Hours – 2 (VMD 897)  **CRN**  Section # 001  M 1-5, W & F 8 – 11  VREC  

The Theriogenology elective consists of three weekly laboratories and covers bovine and equine species equally. Students are given the opportunity to advance previously taught skills and will be exposed to techniques not taught in VMD 841.  

**Minimum – 10, Maximum enrollment – 16**

UNIVERSITY OF TENNESSEE ARTHRITIS CASE MANAGER COURSE  
Course Coordinator: Dr. D. Millis  
Credit Hours – 1 (VMD 897) - **CRN 28036**  Section # 011 – Online  

**No limit**  

**Purpose:**  
The purpose of the University of Tennessee Arthritis Case Manager Course is to improve the quality of life of dogs with osteoarthritis. Osteoarthritis is a common, important condition, with approximately 20% of adult dogs afflicted with osteoarthritis. This course is designed to help identify dogs with this debilitating disease earlier to allow treatment designed to improve clinical function and quality of life. This program embraces the multimodal treatment of arthritis and provides an evidence-based approach to treatment options. Further, this course embraces the team approach to osteoarthritis, recognizing the valuable roles of the veterinarian, veterinary technician, and owner in managing each case. In particular, veterinary technicians play a major role in managing these chronic patients for their lifetime, and interact with veterinarians and owners to be certain that patients are receiving optimal treatment and that owners are informed and educated about the treatment options for their pets and receive appropriate follow-up care. Treatment compliance and appropriate care of patients are most effective when clients receive appropriate education and regular communication. Veterinary technicians will be uniquely equipped to perform these functions upon successful completion of this course.  

**Goals:**  
After completion of this program, participants will understand the basic pathophysiology of osteoarthritis, common conditions causing osteoarthritis, examination of the arthritic patient, and the various treatment options for osteoarthritis and their application to clinical patients.
Curriculum

**Module I – Basics of Osteoarthritis**
Economics of Arthritis
Normal Cartilage Structure and Function
Pathophysiology of Osteoarthritis
Common Conditions Leading to Osteoarthritis

**Module II - Assessment and Diagnosis of the Arthritic Patient**
History
Physical Examination
Gait Evaluation
Outcome Assessment, including Range of Motion, Lameness Scoring, Muscle Mass Evaluation, Activities of Daily Living

**Module III – Medical Management of Osteoarthritis**
NSAIDS
Other Analgesic Agents
Disease Modifying Osteoarthritis Drugs
Steroids

**Module IV – Nutritional Management of Osteoarthritis**
Weight Control
Omega-3 Fatty Acids
Nutritional Supplements and Nutraceuticals

**Module V – Exercise and Manual Therapy for the Patient with Osteoarthritis**
Range of Motion, Stretching, Massage, Joint Mobilization
Proprioceptive and Therapeutic Exercises
Aquatic exercises

**Module VI – Physical Modalities to Treat Osteoarthritis**
Heat and Cold
Transcutaneous Electrical Nerve Stimulation (TENS)
Extracorporeal Shockwave Treatment
Low Level Laser Treatment
Other Modalities - Pulsed Electromagnetic Therapy, Magnet Therapy, Chiropractic, Acupuncture

**Module VII – Other Treatments for Osteoarthritis and Putting It All Together - Case Management**
Environmental Modifications
Herbs
Adipose-Derived Stem Cell Therapy
Botox
Biological Modification
Cartilage Transplant
Surgical Management of Osteoarthritis
Considerations in Management of the Arthritic Patient and Case Management