

## Pre-Clinical Elective Offerings

Course Prefix & Number	Title, Instructor(s), Grading Type, Meeting Times, Min/Max	Description	Credit hrs
VMP873 <sup>3,F</sup>	Advanced Imaging (Federica Morandi) A-F W & F 12p-1p 3/20 Min/Max	This course will introduce the students to the imaging modalities and procedures not covered in the General Radiology VM 855 course. It will introduce computed tomography (CT), magnetic resonance imaging (MRI), and nuclear medicine. Ultrasound will not be covered, as it is part of VMP855.	2
VMP 872 <sup>3,F</sup>	Advanced Ophthalmic Pathology (Kim Newkirk) A-F W 1p-3p 2/5 Min/Max	Demonstrate and correlate the clinical, gross and histologic findings of various common ophthalmic conditions. Specific cases can be targeted to species interests of the enrolled students (i.e. emphasis on large, small or exotic animals). Clinical and gross images as well as histology slides will be made available for review and then discussed in detail during the sessions.	1
VM90P 870 <sup>3,F</sup>	Advanced Small Animal Endocrinology (Shelly Olin) S/NC W 1p-2p 5/90 Min/Max	This course will cover select topics from Small Animal Endocrinology in more detail, introduce new endocrine diseases not covered in the standard course, highlight controversies in the diagnosis and/or treatment of endocrine disease, and discuss the management of patients with multiple endocrinopathies.	1
VMP 870 <sup>2,S</sup>	Advanced Small Animal Orthopedics (Darryl Millis) A-F Per schedule 5/20 Min/Max	Exposes students to basic small animal surgical orthopedics. Laboratory exercises include stifle and hip surgery, fracture stabilization techniques using plates, external fixation splints, and pins. Involves cadaver specimens with emphasis on surgical anatomy and proper use of orthopedic instruments and implants.	2
VMP 870 <sup>2,3,W</sup>	Advanced Soft Tissue Surgery (Cassie Lux) S/NC Per schedule 4/18 Min/Max  Winter Mini Term	Students will understand and practice common soft tissue surgery techniques performed on dogs and cats by general practitioners. Specifically, the anatomy associated with the various surgical procedures, describing the steps of each procedure, and coming up with ways to solve technical problems or address procedural complications.	1
VMP 870 <sup>1,2,S</sup>	Applied One Health (Marcy Souza) <i>Study Abroad</i> S/NC TBD 3/4 Min/Max	Island ecosystems provide a unique opportunity to observe and influence the health of humans, animals and the environment. In collaboration with World Veterinary Services and Mission Rabies, students will gain hands on experience in domestic animal medicine, public health outreach, and One Health research at a veterinary clinic located on Santa Cruz Island, Galapagos, Ecuador. Treatment of injured wild animals may also occur. This 2-credit study abroad course includes information and clinical skills needed to address One Health issues in the Galapagos Islands.	2
VMP 870 <sup>2,S,F</sup>	Anatomy (Robert Reed) S/NC TBD	<u>Exotic</u>	1

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	3/9 Min/Max (Fall) 3/18 Min/Max (Spring)  Topic changes every semester	Students will dissect the snake, turtle, iguana, rabbit, rat, mink, pigeon and chicken in order to gain an appreciation for their anatomical differences and similarities. Students will be required to search out existing anatomical descriptions of these species and document and label their dissections in photographs.  OR  <u>Feline</u>  Students will dissect the cat spending two sessions on the front limb muscles, two sessions on the hindlimb muscles, one session on forelimb vessels and nerves, one session on hindlimb vessels and nerves, one session on the thorax, two sessions on the abdomen, two sessions on the head, one session on the skeleton, one session of clinical aspects of feline surgery and one lecture.	
VMP 870 <sup>2,F</sup>	Aquatic Animal Health (Andrew Cushing or Julie Sheldon) S/NC W 3p-4p 5/22 Min/Max	Introduces important and common diseases of aquatic invertebrates, fresh and marine water fish, aquatic birds, and marine mammals. Includes a field trip to Ripley's Aquarium of the Smokies. Emphasizes husbandry aspects as they pertain to normal health and specific disease processes in aquatic animals.	1
VMP 873 <sup>1,2,SSU</sup>	Arthritis Case Management (Darryl Millis) <b>ONLINE</b> A-F Asynchronous No Min/Max	Designed to help identify dogs with osteoarthritis earlier to allow treatment designed to improve clinical function and quality of life. Embraces team approach (veterinarians, technicians, owners) to multimodal treatment of arthritis and provides an evidence-based approach to treatment options.  Participants will understand 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. <b>ONLINE.</b>	1
VMP 891 <sup>1,2,S</sup>	Basic Surgical Principles (Karen Tobias) S/NC F 8a-9a 48 Max	Introduction and vocabulary for throws, knots, square knot, granny knot, half hitch, and two-handed hand-tie. Basics of asepsis and pack preparation, gowning and closed gloving, waterless hand scrubs. Instrument handling includes needle holders, thumb forceps, scissors; and simple interrupted suture. For the midterm, students submit a model with skin sutures and continuous pattern loops for assessment. A practical exam occurs at the end of the elective.  <i>*surgery kit and other materials will be needed.</i>	1
VMP 885 <sup>1,2,SU</sup>	Camelid Medicine (Andi Lear) S/NC T 8a-9a 5/15 Min/Max  <b>Summer Mini Term</b>	Familiarize students with camelid handling, management, and their most common medical problems.	1

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VMP 870 <sup>2,3,F</sup>	Canine Sports Medicine and Rehabilitation (Marti Drum & Darryl Millis) S/NC W 2p-3p 5/20 Min/Max  Offered every other year (even years)	Students will perform an advanced small animal musculoskeletal examination, recognize common canine sports and injuries particular to those sports, recognize common diagnostics used for sporting injuries, understand lameness evaluation and gait analysis, understand how and when to use common modalities prescribed in physical rehabilitation, understand non-pharmacologic post-operative pain management, design an exercise prescription for conditioning, and understand basics of regenerative medicine.	1
VMP 880 <sup>3,F</sup>	Case Discussion in Equine Internal Medicine (Karen McCormick) S/NC W 2p-4p 4/20 Min/Max	Incorporates information from other courses into discussions of equine internal medicine cases; encourages development of effective problem-solving skills by forcing students to make decisions regarding the management of cases; provides instruction in areas of equine internal medicine that are only briefly discussed in other courses. Students participate in classroom discussions, similar to rounds discussions in clinical rotations. Conducted using an interactive format, so attendance is taken.	1
VMP 871 <sup>1,2,S</sup>	Clinical Microbiology (Sree Rajeev) A-F TBD 0/3 Min/Max	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. Prior arrangement with instructors is required.	1 or 2
VMP 870 <sup>1,2,S</sup>	Cultural Competency and Humility (Zenithson Ng) S/NC 5/20 Min/Max F 12p-1p  Offered every other year (odd years)	Cultural humility and competency are essential skills for navigating conversations in any discipline. Within veterinary medicine, these skills are impactful toward veterinary staff and clientele in addition to providing quality care to animals. As leaders in the industry, veterinarians need to be equipped as compassionate, respectful, active learners of different groups of people and recognize how their own biases may impact the level of care provided. The goal of this course is to help veterinary students recognize the value not only of their own introspective qualities and ideals but also to bring attention to how differences in other individuals are a valuable asset to staff and the surrounding community. The course will be primarily discussion and in-class activity-based.	1
VMP 873 <sup>2,3,F,S,SU,W</sup>	Dental <b>ONLINE</b> (Misty Bailey- grader; through University of Illinois) A-F Asynchronous 0/30 Min/Max	Intensive study of modern dentistry techniques for dogs and cats. Ten modules stressing 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 used to reinforce important concepts. Specific topics feature dental pathology, radiology, extractions, and periodontal disease. Modules are PowerPoint slides with readable content. A quiz with a minimum passing rate is required on each module prior to moving to the next phase.	1

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		Students receive a Certificate of Dental Education upon completion of all 10 modules. Grading depends on the number of passing modules.	
VMP 882 <sup>1,2,S</sup>	Equine Special Topics (Karen McCormick) S/NC W 9a-10a 4/None Min/Max	For the future equine practitioner, a series of lectures highlighting information that is not covered in other lectures or is covered in greater depth than in other areas of the curriculum. Goal is to assist new graduates in their day-to-day activities as an equine practitioner.	1
VMP 895 <sup>3,F</sup>	Feline Medicine (Kimberly Anderson) S/NC W 2p-3p No Min/max	Covers multiple aspects of feline medicine to a greater degree than is presented in the core curriculum. Topics usually include internal medicine (infectious disease, endocrine disorders, respiratory disease, etc.), cardiology, neurology, ophthalmology, nutrition, dermatology, analgesia and anesthesia, soft tissue and orthopedic surgery, oncology, diagnostic imaging as well as special considerations of exotic felids.	1
VMP 886 <sup>2,3,F</sup>	Food Animal Production Medicine (Tulio Prado) A-F W 1p-2p 4/None Min/Max	Series of lectures highlighting important information for the future large animal practitioner. Information covered is not covered in other lectures or will cover topics in greater depth than in other areas of the curriculum. Goal is to assist new graduates in their day-to-day activities as a large animal practitioner in production. Possible topics: Mastitis, internal/external parasite control, toxicology in beef/dairy cattle, castration, implants, general management of beef cattle, anesthetic protocols on the field for surgeries in cattle, BVD, food animal pharmacology, swine management, foot care, breeding management program beef/dairy cattle, bioterrorism/agro terrorism – biosecurity, critical periods of nutrition in beef cattle, economics, dairy/beef health programs.	2
VMP 873 <sup>3,F</sup>	Intensive Care of Small Animals (TBD) A-F TBD 5/30 Min/Max	This course is intended to assist students in developing appropriate fluid therapy and analgesic plans, detecting and correcting electrolyte balances, preventing and identifying transfusion reactions, developing correct nutritional plans, and managing feline urethral obstruction. Students will become familiar with the Rule of 20, as well as learn to best manage patients with parvovirus, trauma patients, and septic patients. These skills will be accompanied by improving client communication around critical illness, financial difficulties, and euthanasia.  <b>*must have taken and passed the Small Animal Emergency &amp; Critical Care elective</b>	1
VMP 870 <sup>1,2,SU</sup>	International Veterinary Public Health (Marcy Souza) STUDY ABROAD S/NC TBD	Rabies is a zoonotic disease that kills approximately 50,000 humans every year, mostly in sub-Saharan Africa and India. While the canine variant of the rabies virus has been eradicated from North America, domestic dogs are the	2

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	1/10 Min/Max	primary driver of human rabies cases globally. This 2-credit study abroad course will cover information needed to address the global public health problem of rabies and provide hands-on experience with a global rabies vaccination campaign.	
VMP 870 <sup>1,2,S</sup>	Introduction to Avian Medicine (Marcy Souza) <b>ONLINE</b> S/NC Asynchronous No Min/Max	Characteristics of species of birds that are commonly kept as pets, identification of skeletal and physiologic differences between birds and mammals, steps of basic medical procedures performed in birds, and recommended steps for biosecurity and quarantine of avian species.	1
VMP 883 <sup>3,F</sup>	Large Animal Diagnostic Ultrasound (Carla Sommardahl) S/NC W 4p-6p 2/15 Min/Max	Basic techniques of ultrasound as a diagnostic tool in large animal veterinary medicine. Covers abdominal, thoracic, and tendon ultrasound techniques along with ultrasound of swellings, masses, etc. Learn the basics of the ultrasound machine and be able to use different types of machines available. A lecture will be given for each anatomical area covered, then a laboratory sessions to view the ultrasound techniques and perform them.	1
VMP 881 <sup>2,S</sup>	Introduction to Equine Dentistry (Eric Martin) S/NC W 8a–10a & varied throughout the semester 4/15 Min/Max	Designed to help improve your knowledge in dental hygiene and disease in horses. A mixture of lectures and labs with more lectures than labs.	2
VMP 870 <sup>1SWSU,2FSWSUM,3FW</sup>	Introduction to Veterinary Nutrition (Angela Rollins) <b>ONLINE</b> S/NC Asynchronous No Min/Max	Students become familiar with various organizations involved in the regulation of commercial pet foods. They learn to use a pet food label to assess the nutritional composition of a diet while also understanding the limitations of pet food label information; become knowledgeable about the various trends in pet food manufacturing so they can be discussed with pet owners; understand the basic nutritional goals of feeding companion animals and livestock for various life stages; and learn to calculate the energy needs of companion animals and livestock in various life stages.	1
VMP 873 <sup>1S, 2FS, 3F</sup>	Issues & Opportunities in Shelter Medicine (Jennifer Weisent/Becky DeBolt) A–F TR 12p–1p 5/8 Min/Max	Lectures/discussion sections on topics related to animal sheltering, geared toward helping the student understand and be able to become involved in animal shelter medicine in their community upon graduation. Students are expected to participate in at least 10hrs of clinical exposure at Young Williams Animal Center, including: animal intake - lost & found, animal control, and veterinary clinic.	1
VMP 870 <sup>1,2,W</sup>	Laboratory Animal Medicine (Bryce Burton) S/NC TBD 4/12 Min/Max  <b>Winter Mini Term</b>	Introduction to the life of a lab animal veterinarian. Didactic lectures, vivarium tour, mock IACUC meeting, and a rodent handling lab exposes students to different components that someone entering the lab animal profession as a full-time or part-time/consulting lab animal vet would need to be familiar with.	1

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VMP 870 <sup>2,F</sup>	Large Animal Clinical Skills (Carla Sommardahl) S/NC W 1p-3p 4/20 Min/Max	Introduction to skills common to large animals, equine and food animal practice.	1
VMP 874 <sup>2,S</sup>	Large Animal Reproduction/Theriogenology (Tulio Prado) A-F W 8a-11a & per schedule 4/12 Min/Max	This elective class is designed to give veterinary students with special interest in large animal medicine and reproduction the opportunity to learn and perform procedures common in large animal practice. This helps teach veterinary students routine procedures that will prepare them for clinics, as well as be performed on client animals upon graduation or completion of this course. They will learn while under the direction of a qualified instructor.	2
VMP 887 <sup>3,F</sup>	Large Animal Surgery (Sarah Templeton & Cassandra Klostermann) S/NC W 8a-11a 10/16 Min/Max	Primary objective: Better prepare students for entry-level large animal veterinary practice by teaching and allowing them to practice surgical procedures commonly performed by large animal practitioners. Includes farm animal and equine portions.	1
VMP 870 <sup>3,F</sup>	Large Animal Reproduction Palpation & Ultrasound (Tulio Prado) S/NC 11a-1p 8/20 Min/Max	This elective will give students the opportunity to improve techniques for transrectal palpation/ultrasound for cows and mares. Learn/practice the landmarks used to help identify the different anatomical parts of the reproductive tract through rectal palpation. Manipulate and ultrasound the reproductive tract to assess the stage of the estrous cycle by locating, identifying, and feeling the different structures of the reproductive organs.	2
VMP 873 <sup>2,S</sup>	Seminars in Zoo Medicine: TBD A-F TBD 5/15 Min/Max  Topic changes every year	<p><u>Megavertebrates</u></p> <p>Advanced topics, including conservation, medicine and surgery of captive and free-ranging vertebrates classified as megavertebrates. A mixture of lectures presented by faculty and seminars presented by the participants. Includes a visit to the local zoological facility. Grading will be based on attendance, participation, and seminar presentation.</p> <p>OR</p> <p><u>Honey Bee Medicine</u></p> <p>Course will cover honey bee biology, beekeeping equipment and practices, hive inspection, and significant diseases of honey bees. A mixture of lectures presented by faculty and seminars presented by the participants. Includes a visit to a local apiary facility (TBD). Grading will be based on attendance, participation, and seminar presentation</p> <p>OR</p> <p><u>Reptile Medicine and Surgery</u></p>	1

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		Course will introduce reptile anatomy, physiology, husbandry, diagnostic testing, anesthesia, surgery, euthanasia, and common diseases. Sessions will include lectures by clinicians, journal article presentation by participants, and case discussion. Grading is based on attendance, participation, and journal article presentation.	
VMP 870 <sup>2FS,3F</sup>	Nonsurgical Orthopedics <b>ONLINE</b> (Darryl Millis) S/NC Asynchronous 1/100 Min/Max	This course is completely online and self-paced. Students will gain in-depth instruction regarding orthopedic and gait evaluation, with multiple videos. In addition, orthopedic imaging will be presented, as well as techniques for arthrocentesis of common joints. Students are expected to improve their knowledge of musculoskeletal conditions, lameness evaluation techniques, and diagnostics appropriate for evaluation of the musculoskeletal system. Student evaluation (grading) will be based on the number of modules completed and passing quizzes associated with each module.	1
VMP 890 <sup>2,S</sup>	Pain Management (Reza Seddighi) S/NC W 9a–10a 15 Min/No Max	Explore clinical pain and pain management strategies and protocols with emphasis on typical veterinary clinical problems. Nociceptive pain, procedural pain, postoperative pain, maladaptive pain, chronic pain, cancer pain, and related syndromes will be discussed with a focus on clinical modalities for treatment. Case scenarios and practical examples will serve to reinforce the principles of pain management, including preemptive analgesia, balanced analgesia, and recognition of varying patient needs in a variety of species (small animals, equine and farm animals) will be discussed. Uses of the principal classes of analgesics, including NSAIDs, opioids, and local anesthetics, as well as adjunctive medications and non-drug methods, such as acupuncture, for pain relief are included in the lectures.	1
VMP 870 <sup>2,S</sup>	Pathology Case Presentation (Linden Craig) S/NC TBD 1/10 Min/Max	<b>Before enrolling, interested students must identify a pathology faculty mentor.</b> The student will work with the faculty mentor to identify a case suitable for presentation at the Southeastern Veterinary Pathology Associates Conference (SEVPAC). Students will research the case and prepare the submission forms for the conference as well as a 5-min PowerPoint presentation, including photomicrographs, and give the case presentation to the other enrolled students, pathology residents and faculty (and possibly to the college as a lunchtime seminar). Students are expected to provide feedback on the presentations given by other enrolled students or pathology residents. Attendance and presentation at SEVPAC is optional.	1
VMP 870 <sup>2,F</sup>	Pet Swine Management, Medicine, and Surgery (Chiara Hampton) S/NC W 12p-1p 6/12 Min/Max	Pet Swine Management, Medicine, and Surgery is designed as a lecture-based course, with a heavy integration of clinical cases to foster student engagement and discussions. The majority of the course will be spent lecturing on and	1

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		<p>discussing the main topic relative to the management of pet swine, and medical and surgical pathologies and their treatments. Potential lecture topics include the following:</p> <ol style="list-style-type: none"> <li>1. Introduction &amp; General management, examination, venipuncture</li> <li>2. Hoof, Dental, and Skin Care</li> <li>3. Nutrition and Preventative Medicine</li> <li>4. Medical Management I - GI and Neuro</li> <li>5. Medical Management II - Urinary, Repro, Neonatal</li> <li>6. Pharmacotherapeutics</li> <li>7. Orthopedics</li> <li>8. Sedation and Anesthesia</li> <li>9. Common Surgical Procedures</li> <li>10. Pain Evaluation and Management of Pet Swine</li> <li>11. Laboratory – Live Animal</li> </ol>	
VMP 870 <sup>1,2,S</sup>	Pollinator Health (TBD) S/NC TBD 5/30 Min/Max	This course aims to educate veterinary students on the often-overlooked pollinator species including European honeybees, native North American bees, bats, birds, butterflies, and everything in-between. Students will learn about: 1. Basic Pollinator strategies and their importance/impact with a One-health perspective 2. Basic Bee(hive) anatomy/physiology 3. Bacterial/Viral diseases of honeybees (emphasis on American Foulbrood) 4. Parasitic diseases of honeybees (mites, hive beetles, Nosema) 5. North American native insect pollinators 6. Wild, non-insect pollinators (bats, birds, etc.) 7. White Nose Syndrome in bats. (This course will most likely be available as online modules with pre-recorded lectures to maximize the availability of speakers and lecturers from a variety of disciplines and geographical locations.	1
VMP870 <sup>2,S</sup>	Small Animal Advanced Anesthesia (TBD) S/NC TBD 15/25 Min/Max	Students will understand the basic pathophysiology of common cardiac, endocrine, neurologic, pulmonary, and urinary diseases, along with varying emergency conditions, and design an anesthetic plan for patients with these conditions. Students will know the anatomy of common locoregional anesthetic techniques, describe the landmarks for performing these techniques, and demonstrate performance of these loco-regional techniques on small animal cadavers. Students will understand the physiology of acute pain and pathophysiology of chronic pain and design a peri-operative pain management plan, as well as demonstrate knowledge and effective use of various canine and feline pain scoring systems	1
VMP 870 <sup>2,3,F</sup>	Small Animal Behavioral Problems (Julie Albright) S/NC T & R 12p–1p 5/none Min/Max	Class meetings will consist of in-depth discussion of common problems of the cat and dog presented through clinical case discussions. In addition, students may choose to either conduct a vet procedure-training project with a companion animal or lead one clinic case with Dr. Albright during the semester.	1
VMP 870 <sup>3,F</sup>	Small Animal Dentistry (Lothamer)	This course will give students hands-on experience with commonly encountered dentistry and oral surgery	1



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	S/NC Per schedule (1p-5p days vary through schedule) 5/15 Min/Max	procedures. At the end of this course, students should be more comfortable with recognizing oral structures and diseases and performing basic procedures. Course objectives include the ability to perform: 1. Oral examination via proper dental charting. 2. scaling, with an ultrasonic scaler, and polishing of the teeth. 3. local anesthesia in preparation for oral surgery. 4. Basic extractions in canine patients. 5. basic extractions in feline patients. 6. non-invasive stabilization techniques for mandibular fractures. 7. Gain experience in performing more advanced procedures of maxillectomy and mandibulectomy.	
VMP 892 <sup>2,3,F</sup>	Small Animal Emergency & Critical Care (Kristen Marshall) A-F W 12p-1p 12/30 Min/Max	Specific topics related to small animal emergency and critical care, including triage of the critically ill animal, cardiopulmonary resuscitation, transfusion medicine, acid/base abnormalities and math for the emergency veterinarian. Traditional lecture format presentation and case-based discussions. A -hour lab focuses on common ECC procedures, including central lines, nasogastric and esophageal feeding tubes, urinary catheters and thoracostomy tubes. Final grade determined by attendance, participation in group discussion and two take home exams.	1
VMP 870 <sup>2,S</sup>	Small Animal Medicine Problem Solving (Ashley Hartley) S/NC W 12p-1p 8/30 Min/Max	Topics will include anemia, protein-losing enteropathy, fever of unknown origin, effusive disease (pleural +/-abdominal), and gastrointestinal disease. Five or six cases presented and discussed, primarily in a group fashion. Focused on developing an accurate problem list of primary problems, developing an accurate differential diagnoses list, developing an accurate 1 <sup>st</sup> - and 2 <sup>nd</sup> -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 participation and guided problem lists.	1
VMP 878 <sup>1,2,S</sup>	Small Animal Preventive Medicine (Zenithson Ng) A-F T & R 12p-1p (ends early April) 5/24 Min/Max	Preparation to counsel owners in responsible pet ownership. Provides a knowledge base and access to resource materials that will allow preparation and implementation of public education programs on various aspects of responsible pet ownership in order to provide the community with high-quality programs on responsible pet ownership. Provides an opportunity for veterinary students to further develop their communication skills.	1
VMP 894 <sup>2S,3F</sup>	Spay/Neuter (Lane Anderson) A-F W 7a-varies 2/20 Min/Max Spring 2/20 Min/Max Fall	Gain "hands-on" experience in small animal surgery. Dogs and cats from animal shelters will be sterilized. Students will work in pairs and will rotate between surgeon and anesthetist weekly. Requires all students to meet weekly for the entire semester except during holiday breaks or ABLE weeks. Most students will achieve a level of competence that will be equal to that of graduating seniors.	2
VMP 870 <sup>3,F</sup>	Surgical Pathology (Linden Craig) S/NC	The objective of this course is to increase pathology experience for <b>those students interested in a career in anatomic pathology or a related field</b> (oncology, clinical	1

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	W 10a-11a 1/6 Min/Max	<b>pathology, etc.</b> ). 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. Round cell tumors, mesenchymal tumors, epithelial tumors, non-neoplastic lumps and bumps, and selected dermatopathologic conditions will be covered by Dr. Craig in the first 5 sessions. The remaining sessions will be with the pathologist or resident on service reviewing cases submitted that day. 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.	
VMP 874 <sup>2,3,F</sup>	Swine <b>ONLINE</b> (Lew Strickland- grader; through Iowa State University) A-F Asynchronous No Min/Max	Self-directed online course with 14 core lectures. A UT faculty facilitator is available for questions and assistance. Contains 20+ short video virtual tours of things like a sow farm, boar stud, nursery facility, vaccination best practices, etc. Contains a mid-term and final. Essential for anyone thinking of swine practice or mixed animal practice and will considerably aid in performance on the NAVLE.	1
VMP 876 <sup>1,2,S</sup>	One Health (Michael Mahero) <b>ONLINE</b>	Online course that will address the link between human, animal, and environmental health. Each online module focuses on some aspect of "One Health" and may include topics such as emergency preparedness, zoonotic diseases, antibiotic resistance and food safety, responsible pet ownership and the human-animal bond, and the effects of climate on disease prevalence. Methods of intervention and problem solving such as research design, program evaluation, community education, and policy analysis are also incorporated.	3
VMP 870 <sup>1S, 2F, 2S, 3F</sup>	Veterinary Pharmacy (Jeremy Long) S/NC T 12p-1p 7/18 Min/Max	This class will better prepare students to be immediately involved in clinical patient care with confidence. Topics covered will include; Prescription Writing, Relevant Laws, Pharmaceutical Calculations, Owner Counseling, Drug Interactions, Specific Patient Population Considerations, Medication Preparation, Controlled Substances, Hazardous Chemicals, Errors and Reporting. Students who complete this class will be much more prepared and confident when joining their assigned clinical team for clinical rotations. This course will further prepare the Veterinary student to be confident in prescribing and filling their own prescription medications, as well as appropriately counseling owners about pet medications once in regular practice.	1
CEM 530 (WFS 530) <sup>2,3F</sup>	Wildlife Diseases (Rick Gerhold- <b>Ag Campus</b> ) 5/25 Min/Max A-F W 5:05-6:45 pm 5/25 Min/Max  <b>Offered every other year (even years)</b>	Monitoring and evaluating disease in wildlife populations is not only important for the health of the affected animal population, but can also be used as an indicator for both environmental and human health risks. As human populations continue to grow, interactions with wildlife will undoubtedly increase. This increased interaction can lead to stress for animals (with possible increases of disease) as well as increased exposure to zoonotic diseases for people. This	2

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		course will focus not only on diseases of wildlife, but also the concept of “One Health” which encompasses human, animal and environmental health.	
WFS 533 <sup>1,2,S</sup>	Amphibian Ecology and Conservation (Matt Gray – Ag Campus) A–F TR 8:10–9:25 5 Max	An in-depth examination of amphibian life-history strategies, community interactions, and hypothesized mechanisms of amphibian declines. Amphibian monitoring, conservation and management techniques also are covered.	3
CEM 612 (WFS 560) <sup>1,2,3,S</sup>	Advanced Topics/Wildlife & Fisheries Science Journal Club (Deb Miller – <b>Ag Campus</b> ) A–F F 12p–1p 10 Max	Recent advances and concepts, research techniques and analysis of current problems.	1

1 = Offered to 1<sup>st</sup>-year students, 2 = Offered to 2<sup>nd</sup>-year students, 3 = Offered to 3<sup>rd</sup>-year students, F = fall semester, S = spring semester, SU = summer semester/mini term, W = winter semester/mini term