COURSE TITLE: PHRD 5063 Veterinary Pharmacotherapy

I) Contact Information: Sara Groan, DVM Office: 318-323-4411, Bienville Office Rm. 131, Phone: 318-342-3169 Email: groan@ulm.edu or saragroan@monroeanimalhealth.com

II) Course Prerequisites/Corequisites: 2nd and 3rd Pharmacy students

III) Course Description: Pathogenesis, diagnosis, and rational therapeutic approaches to the treatment of selective disease states in companion animals.

IV) Curricular Objectives and Outcomes:
   A) Domain 1 – Foundational Knowledge
      1.1. Learner (Learner) – Develop, integrate, and apply knowledge from the foundational sciences (i.e., pharmaceutical, social/behavioral/administrative, and clinical sciences) to evaluate the scientific literature, explain drug action, solve therapeutic problems, and advance population health and patient-centered care.
   B) Domain 2 – Essentials for Practice and Care
      2.1. Patient-centered care (Caregiver) – Provide patient-centered care as the medication expert (collect and interpret evidence, prioritize, formulate assessments and recommendations, implement, monitor and adjust plans, and document activities.)
   C) Domain 3 – Approach to Practice and Care
      3.1. Problem Solving (Problem Solver) – Identify problems; explore and prioritize potential strategies; and design, implement, and evaluate a viable solution.

D) Domain 4 – Personal and Professional Development
   4.1. Self-awareness (Self-aware) – Examine and reflect on personal knowledge, skills, abilities, beliefs, biases, motivation, and emotions that could enhance or limit personal and professional growth.

   4.4 Professionalism (Professional) – Exhibit behaviors and values that are consistent with the trust given to the profession by patients, other healthcare providers, and society.

V) Course Specific Objectives and Outcomes:
   A) Legal and regulatory issues related to the compounding and provision of medications between companion and food animals.
   B) Legal and regulatory issues related to the compounding and provision of medications for companion animals.
   C) Explain ethical issues associated with the care of companion animals.
   D) Ethical issues involved in the compounding of medications for companion animals.
   E) Ethical standards to the provision of care to animal patients and in interactions with their owners (human/animal bond).
   F) Identity, locate and use veterinary specific resources for companion animal diseases and drug information.
   G) Discuss species differences in absorption, distribution, metabolism and elimination of certain pharmaceuticals.
   H) Discuss preventive treatment for animals
      1) Intestinal parasites-wormers and antiprotozoal agents
      2) External parasites (fleas, ticks)
3) Heartworm prevention

I) Define the pathology, signs/symptoms, diagnosis, treatment, and monitoring for:

1) Endocrine Disease
   (a) Diabetes mellitus (canine and feline)
   (b) Hypothyroidism (canine)
   (c) Hyperthyroidism (feline)
   (d) Hyperadrenocorticism (canine, ferrets)
   (e) Hypoadrenocorticism (canine)

2) Neurologic Disease
   (a) Epilepsy (canine)
   (b) GME (canine)
   (c) Old Dog~ Vestibular Syndrome (canine)

3) Gastrointestinal Disease
   (a) Ulceration (canine, equine)
   (b) Diarrhea (canine)
   (c) Hemorrhagic Gastroenteritis (canine)
   (d) Inflammatory Bowel Disease (feline)
   (e) Mega colon (feline)

4) Cardiovascular and Respiratory Discuses
   (a) Cardiomyopathy (canine and feline)
   (b) Heartworm Disease (canine)
   (c) Hypertension (feline)
   (d) Asthma (feline)
   (e) COPD (equine)

5) Dermatologic Disorders
   (a) Otitis external (canine, feline)
   (b) Atopy (canine, feline)
   (c) Parasitic skin disease (canine, feline)

6) Infectious Disease (canine, feline, equine)
   (a) Bacterial
   (b) Fungal
   (c) Viral

7) Neoplastic Disease (canine, feline)

8) Separation anxiety (canine, feline)

9) Urinary Incontinence (canine)/inappropriate elimination (feline)

10) Osteoarthritis (canine)

11) Evaluate the veterinary prescription for appropriate treatment and potential problems
    (a) Discuss the toxic potential of common items in companion animals
    (b) OTC drugs for humans
    (c) Antifreeze
    (d) Plants
    (e) Discuss the appropriate use of analgesia and anesthesia in companion animals

12) Special topics in exotic animals (birds, "pocket pets")

VI) Course Topics
A) Identify differences in legal and regulatory issues related to the compounding and provision of medications between companion and food animals.
B) Explain legal and regulatory issues related to the compounding and provision of medications for companion animals.
C) Explain ethical issues associated with the care of companion animals.
D) Discuss ethical issues involved in the compounding of medications for companion animals.
E) Apply ethical standards to the provision of care to animal patients and in interactions with their owners.
(human/animal bond).

F) Identity, locate and use veterinary specific resources for companion animal diseases and drug information.

G) Discuss species differences in absorption, distribution, metabolism and elimination of certain pharmaceuticals.

H) Discuss preventive treatment for animals.
   1) A. Intestinal parasites——(A) wormers and antiprotozoal agents
   2) B. External parasites (fleas, ticks)
   3) C. Heartworm prevention
   4) Define the pathology, signs/symptoms, diagnosis, treatment, and monitoring for:
      (a) Endocrine Disease
          (i) Diabetes mellitus (canine and feline)
          (ii) Hypothyroidism (canine)
          (iii) Hyperthyroidism (feline)
          (iv) Hyperadrenocorticism (canine, ferrets)
          (v) Hypoadrenocorticism (canine)
      (b) Neurologic Disease
          (i) Epilepsy (canine)
          (ii) GME (canine)
          (iii) Old Dog—Vestibular Syndrome (canine)
      (c) Gastrointestinal Disease
          (i) Ulceration (canine, equine)
          (ii) Diarrhea (canine)
          (iii) Hemorrhagic Gastroenteritis (canine)
          (iv) Inflammatory Bowel Disease (feline)
          (v) Mega colon (feline)
      (d) Cardiovascular and Respiratory Discusses
          (i) Cardiomyopathy (canine and feline)
          (ii) Heartworm Disease (canine)
          (iii) Hypertension (feline)
          (iv) Asthma (feline)
          (v) COPD (equine)
      (e) Dermatologic Disorders
          (i) Otitis externa (canine, feline)
          (ii) Atopy (canine, feline)
          (iii) Parasitic skin disease (canine, feline)
      (f) Infectious Disease (canine, feline, equine)
          (i) Bacterial
          (ii) Fungal
          (iii) Viral
      (g) Neoplastic Disease (canine, feline)
      (h) Separation anxiety (canine, feline)
      (i) Urinary Incontinence (canine)/inappropriate elimination (feline)
      (j) Osteoarthritis (canine)
      (k) Evaluate the veterinary prescription for appropriate treatment and potential problems
          (i) Discuss the toxic potential of common items in companion animals
          (ii) OTC drugs for humans
          (iii) Antifreeze
          (iv) Plants
          (v) Discuss the appropriate use of analgesia and anesthesia in companion animals
      (l) Special topics in exotic animals (birds, "pocket pets")
VII) Instructional Methods and Activities: Instructional methods may include: traditional lectures, in-class discussion of cases, small group discussion, problem-based learning, in-class demonstrations, observation, case-based learning, and individual projects. In addition, participation in a service learning project is required for successful completion of the course. Your service learning project this semester will include going to the Ouachita Parish Humane Society to assist with the care of abandoned and/or neglected animals for 4 hours during the semester. This project is a part of your class work and will be graded on a credit/no credit scale. You must provide your own transportation to and from the shelter.

- Evaluation and Grade Assignment: There will be two examinations and a final examination, each encompassing new material and may include comprehensive material as necessary. Participation in a service learning project is required. Quizzes will be given on a weekly basis. The first two exams will be given during regularly scheduled class periods and be 50 minutes in duration. The final examination will follow the College's final exam schedule. Quizzes will be given during the first 10 minutes of class. Because the practice of pharmacy requires decision making and the completion of tasks in a timely manner in publicly accessible and busy areas, completion of exams and quizzes in the normal classroom setting in the original time allotted is a part of the grading process. Consequently, extra time will not be allotted for testing, and students will be required to take examinations in the assigned classroom. Exam dates are scheduled in the course syllabus and the college exam schedule. Test dates will only be changed in the event of University closure or emergency. Exams and quizzes may be multiple choices. Fill in the blank, short-answer, case or scenario based discussion, essay, or any other format deemed necessary by the lecturers and course coordinator. Information acquired from previous lectures in the course and from other courses in the professional pharmacy curriculum may be needed in preparing for these examinations. Exams will cover material (readings, outside assignments) not covered in class. Use of programmable calculators will not be allowed during quizzes or exams. Students wishing to review their exams with the course coordinator or with a specific lecturer must do so within 2 weeks of when the test scores are posted. Students wishing to challenge a question on the test must provide the course coordinator with a written statement that identifies which question(s) are being challenged, why the student feels his or her answer(s) is/are correct and references from recent (published within the last 1-2 years) primary or tertiary literature to support the claim. Challenges of test questions will only be considered within 2 weeks of when the test scores are posted. In the event that a question is eliminated from an exam after it has been printed. The exam will be graded based on the remaining number of questions and adjusted to represent correct percentage. Individual test grades for the course will be based strictly upon these percentages. There will be no curving or adjustments of grades except in the case of an incorrect question. The use of programmable calculators and electronic devices capable of storing, receiving or transmitting data are prohibited during an exam or quiz unless expressly authorized by the course instructor. Such devices must be turned off and left with your belongings in the front of the room.

VIII) A) Grading Scale:
89.6 – 100%  A
79.6- 89.5%  B
69.6- 79.5%  C
60- 69.5%  D
<60%  F

B) Semester Grade:
Exam I -100 points (25%)
Exam II 100 points (25%)
Quizzes 100 points (25%)
Final Exam 100 points (25%)
Service project - Students not completing the service learning project and required training will receive an incomplete in the course. Failure to resolve a grade of incomplete in the time specified by University policy will result in failure of the course.

Undergraduate mid-term grades will be posted on-line for students to view via Banner. Mid-term grades indicate a student’s status at mid-semester only and do not indicate the final performance outcome of a student. Any student earning a non-passing grade of “D” or “F” on an exam will be required to participate in mandatory tutoring sessions offered by the course instructor(s) until such a time that they obtain a passing average in the course.

IX) Class Policies and Procedures: At a minimum, all policies stated in the current ULM Student Policy Manual & Organizational Handbook and the College of Pharmacy Faculty/Student bulletin should be followed. (see http://www.ulm.edu/studentpolicy/). Additional class policies include:

A. Academic Integrity: Faculty and students must observe the ULM published policy on Academic Dishonesty (see the ULM Student Policy Manual – http://www.ulm.edu/studentpolicy/). All students must observe the ULM College of Pharmacy Code of Ethical and Professional Conduct (http://rxweb.ulm.edu/pharmacy/policies/cocodeofconduct.pdf)

B. Course Evaluation Policy: At minimum, students are expected to complete the on-line course evaluation as well as any evaluation administered in class by the College of Pharmacy.

C. Student Services: Information concerning student services in the College of Pharmacy can be found in the College of Pharmacy Student Handbook. In particular, students you pay special attention to the Colleges technical standards and policies concerning students with special needs. Information about ULM student services, such as Student Success Center (http://ulm.edu/cass/), Counseling Center (http://ulm.edu/counselingcenter/index.htm),

D. Special Needs Policy
   a. While students with special needs are expected to meet the College of Pharmacy’s academic and technical standards, students are given the opportunity to achieve Doctor of Pharmacy competencies in alternative ways as long as the alternative methods do not fundamentally alter the structure or outcomes of the program or deviate from the technical requirements.
   b. An applicant or enrolled student with a suspected or documented disability who requests accommodations for the disability is required to submit to an evaluation, at their own cost, by a health care professional identified by the College of Pharmacy. Applicants must submit, in writing, a request for evaluation to the Office of Student and Professional Affairs prior to admission. Any existing student who has a suspected or documented disability and who seeks special accommodations from the University must submit, in writing, a request for evaluation to the Office of Student and Professional Affairs prior to the start of the school year in the fall semester. If a suspected disability develops during the school year for which accommodations may be requested, the student must provide, in writing, a request for an evaluation to the Office of Student and Professional Affairs as soon as the student becomes aware of the disability requiring special needs.
   c. The student must sign a waiver allowing the health care professional chosen by the College to provide medical information related to the disability to the College for evaluation. At a minimum, required documentation for a student with a disability requesting accommodations includes a letter from the College-identified health care professional stating whether or not the student’s disability will impair the student’s ability to meet the curricular outcomes and technical standards of the program with or without accommodations, copies of the student’s diagnostic evaluation along with the results of any diagnostic tests used in the diagnosis, and a list of specific accommodations that may be necessary. Students with accommodations are required to be reevaluated, at a minimum, every two years.
a. Accommodation decisions are addressed on an individual basis. The Office of Student and Professional Affairs, in conjunction with the ULM Counseling Center Director, will evaluate the effects of the student’s disability in relation to the curricular outcomes and technical and academic standards.

b. A student approved for accommodations should follow the process explained below.
   i. Prior to or on the first day of class, the student should register as a Special Needs Student with the OSPA.
   ii. By the end of the first week of class, once all syllabi have been obtain, the student should turn in a list of all dates of tests for which accommodations will be needed.
   iii. OSPA will notify Faculty members scheduled to teach a special needs student via email. This notification will contain suggested and requested classroom accommodations for that specific student with special needs and the dates that tests will be given.
   iv. During the first week of class, students should contact, in person, their Faculty members to discuss their special needs.
   v. Faculty members are asked to bring exams to the OSPA two hours prior to it being administered. If the exam is scheduled at 8 a.m., faculty members are asked to bring the exam to OSPA by 5p.m. the day before.
   vi. Students will need to arrive in the OSPA 5 minutes prior to the exam start time.
   vii. Students will not be allowed to begin an exam early or late, unless prior arrangements have been made with the faculty member and the faculty member has notified in writing via email the OSPA.
   viii. OSPA has five testing rooms that are monitored by OSPA personnel via camera at all times.

E. Fire Emergency Plan: Please review the emergency escape plan in the classrooms and hallways of Bienville. Move quickly and orderly when exiting the building. Any student needing assistance should notify the professor immediately.

F. Cell Phone Policy: All cell phones should be turned off during class. If a student has a need to be notified during a an emergency situation during class, he should leave the telephone number of the Office of Student and Professional Affairs, 318-342-3800, with the person who may need to contact them emergently. Cell phones are not allowed in the classroom during examinations or quizzes. Students found to be in possession of a cell phone during an examination or quiz will be considered to have committed an act of academic dishonesty and will be charged and brought before the committee on ethical and professional conduct.

G. Use of Prior Course Materials: Prior exams and prior quizzes are NOT permissible to possess and distribute to other students. Students who hand down prohibited course material are in violation of the policy and the Honor Code.

X) Textbook(s) and Materials:
   A) Required Textbook - None
   B) Recommended Textbook

XI) Attendance Policy:
Class attendance is regarded as an obligation as well as a privilege, and students are expected to know attendance regulations and to attend regularly and punctually at classes in which they are enrolled. The University attendance policy will be followed during this course and can be located here: http://catalog.ulm.edu/content.php?catoid=23&navoid=2875&hl=attendance&returnto=search#Class_Attendance_Regulations_Excused_Absences

Please note that signing an attendance roster on behalf of an absent student, or falsely representing attendance by any other means, is a violation of the ULM academic dishonesty policy and, potentially, federal law.
Students shall submit excuses for all class absences to the Course Coordinator within three class days after returning to classes, and if a grade-earning opportunity occurs during the affected class, also to the faculty member conducting the missed class. Course faculty shall accept an official University excuse (see below). With the following exceptions, the designated Course Coordinator is to determine whether absences are excused or unexcused:

1) Absences arising from authorized trips away from the University or from special duties at the University shall be excused.
2) Absences arising from a student’s confinement in a hospital or other in-patient facility or doctor’s excused absences shall be excused. Students are responsible for providing documentation of any such events to the faculty, who will verify the authenticity and acceptability of this information.
3) Absences arising from a death in the immediate family shall be excused. The immediate family is defined as spouse, child, step-child, mother, father, sister, brother, grandmother, grandfather, step-mother, step-father, step-brother, step-sister, aunt, uncle, mother-in-law or father-in-law. Students are responsible for providing documentation of any such events to the faculty, who will verify the authenticity and acceptability of this information.

XII) **Make-up Policy:** Each student is expected to attend each exam at the date and time specified. If a student cannot attend an exam due to valid University excuse, he/she must speak directly with the course coordinator as soon as possible. The course coordinator must be notified prior to the examination if a student misses the exam, if possible. Failure to attend a scheduled make-up exam will result in a zero grade for that exam. Make-up exams will be prepared at the same or higher level than the original exam. The format of the make-up exam may be written or oral. Students missing an exam due to a University approved excuse will take the make-up exam during the week of finals, or as determined by the course coordinator.

XIII) **Academic Integrity:** Faculty and students must observe the ULM published policy on Academic Dishonesty (see the ULM Student Policy Manual - [http://www.ulm.edu/studentpolicy/](http://www.ulm.edu/studentpolicy/)). All professional students will adhere to the standards set forth in the College of Pharmacy's Code of Conduct. ([http://www.ulm.edu/pharmacy/documents/ospa/codeofconductv82011.pdf](http://www.ulm.edu/pharmacy/documents/ospa/codeofconductv82011.pdf) (Also, include any additional policy information)

XIV) **Course Evaluation Policy:** At a minimum, students are expected to complete the on-line course evaluation. (Also, include any additional course-specific policies related to evaluation of the course.)

XV) **Student Services:** Information concerning student services in the College of Pharmacy can be found in the College of Pharmacy Student Handbook. In particular, students should pay special attention to the Colleges technical standards and policies concerning students with special needs ([http://www.ulm.edu/studentpolicy/studentpolicy.pdf](http://www.ulm.edu/studentpolicy/studentpolicy.pdf)). ULM student services, such as Student Success Center ([http://ulm.edu/cass/](http://ulm.edu/cass/)), Counseling Center ([http://ulm.edu/counselingcenter/](http://ulm.edu/counselingcenter/)), and Student Health Services, is available at the following Student Services web site [http://ulm.edu/studentaffairs/](http://ulm.edu/studentaffairs/).

If you are having problems with emotional, social, and/or behavioral issues please call any of the mental health clinics on the ULM campus to make an appointment. All services are free to ULM students, staff, and faculty, and are strictly confidential.

- COP Office of Student and Professional Affairs: 342-3800
- ULM Counseling Center: 342-5220
- Marriage and Family Therapy Clinic: 342-5678
- Community Counseling Center: 342-1263
- ULM HELPS (Helping Educators and Learners Prevent Suicide) Project Office: 342-1335
The University of Louisiana at Monroe strives to serve students with special needs through compliance with Sections 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act. These laws mandate that postsecondary institutions provide equal access to programs and services for students with disabilities without creating changes to the essential elements of the curriculum. While students with special needs are expected to meet our institution's academic standards, they are given the opportunity to fulfill learner outcomes in alternative ways. Examples of accommodations may include, but are not limited to, testing accommodations (oral testing, extended time for exams), interpreters, relocation of inaccessible classrooms, permission to audiotape lectures, note-taking assistance, and course substitutions.

*Title IX of the Education Amendments of 1972 prohibits sex discrimination against any participant in an educational program or activity that receives federal funds, including federal loans and grants. Furthermore, Title IX prohibits sex discrimination to include sexual misconduct, sexual violence, sexual harassment and retaliation. If you encounter unlawful sexual harassment or gender-based discrimination, please contact Student Services at 318-342-5230 or to file a complaint, visit [www.ulm.edu/titleix](http://www.ulm.edu/titleix).*

**XVI) Emergency Procedures:** Please review the emergency escape plan in the classrooms and hallways of the Bienville building. Move quickly and orderly to the appropriate stairwell and exit the building. The meeting place for this class will be in the parking lot in front of the Bienville Building. Under no circumstances is the elevator to be used for emergency evacuation. Any student needing assistance should notify the professor immediately.

**XVII) Discipline/Course Specific Policies:** Not applicable
XVIII) Tentative Class Schedule: (following page)-the instructor reserves the right to adjust the schedule as needed.

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<th>Lecture</th>
<th>Topic</th>
<th>Instructor</th>
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<td>Introduction, Human-Animal Bond, Vet Pharmacy Law, Prescriptions</td>
<td>Groan</td>
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<td>W 29-Aug-18</td>
<td>Internal and External Parasites</td>
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<td>W 5-Sep-18</td>
<td>Heartworms, Cardiovascular Disease</td>
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<td>Otic, Dermatological Disorders, Fungal Skin Infections</td>
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<td>W 19-Sep-18</td>
<td>Canine Obesity, Osteoarthritis</td>
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<td>W 26-Sep-18</td>
<td><strong>EXAM 1, Endocrine Diseases</strong></td>
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<td>W 3-Oct-18</td>
<td>Endocrine Diseases, Diabetes</td>
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<td>W 10-Oct-18</td>
<td>Neurological Diseases, Infectious Diseases</td>
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<td>W 17-Oct-18</td>
<td>Gastrological Diseases</td>
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<td>W 24-Oct-18</td>
<td><strong>EXAM II, Behavioral Disorders</strong></td>
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<td>W 31-Oct-18</td>
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<td>Ethylene Glycol, Small Animal Toxicity, Vomiting</td>
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<td>Neoplastic Diseases, Antiemetcs</td>
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<td><strong>Thanksgiving Holiday</strong></td>
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<td>W 28-Nov-18</td>
<td>Common Toxicities, OTC Human Meds, Holistic Medicine</td>
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<tr>
<td>W 5-Dec-18</td>
<td>Final Exam 1pm</td>
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PHRD5063 - Veterinary Pharmacotherapy - Room 170

W 2 - 4:50 pm