**Veterinary Pharmacotherapy**  
PHAR 6301  
Spring 2017  
2 credit hours

| Course Directors: | Ann Philbrick, Pharm.D., BCPS  
Associate Professor, Department of Pharmaceutical Care and Health Systems  
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philb020@umn.edu  
Office hours by appointment & available via Skype |
<table>
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<tr>
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<tbody>
<tr>
<td>Class Time &amp; Location:</td>
<td>Class lectures will be presented online via presentations linked on Moodle. Small group discussion topics or presentations will be posted each week, in which students will need to post an initial response and comment at least once.</td>
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<tr>
<td>Course Description:</td>
<td>This class is for pharmacy students. Because the students are on separate campuses, class lectures will be posted and delivered via Moodle.</td>
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<tr>
<td>Learning Objectives</td>
<td>For students to gain knowledge concerning pharmacotherapy of common medical conditions of small animals.</td>
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<tr>
<td>Prerequisites:</td>
<td>Pharmacy students must have completed the first two years of the pharmacy curriculum.</td>
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| Course Objectives: | Knowledge  
1. Describe the laws and regulations regarding pharmacy, veterinary pharmacy and compounding medications.  
2. Apply appropriate therapeutic use of medications in the following disease states:  
   a. Endocrine disorders  
      i. Canine hypothyroidism  
      ii. Feline hyperthyroidism  
      iii. Diabetes  
      iv. Cushing’s syndrome  
      v. Addison’s disease  
   b. Pain Management  
      i. General pain  
      ii. Osteoarthritis  
   c. Infectious Disease  
      i. Pneumonia  
      ii. Bite wounds  
      iii. Feline herpesvirus  
      iv. FeLV and FIV  
      v. Worms  
      vi. Zoonotic diseases  
   d. Dermatology  
      i. Atopic dermatitis  
      ii. Immune-mediated hemolytic anemia  
      iii. Otitis media & externa  
      iv. Sarcoptic mange  
   e. Lower urinary tract disease  
      i. iFLUTD |
ii. Nephrolithiasis & obstruction
iii. Chronic renal failure
iv. Urinary incontinence

f. Ophthalmologic conditions
   i. Corneal ulcers
   ii. Uveitis
   iii. Glaucoma
   iv. Cataracts

g. Cardiology
   i. Mitral valve disease
   ii. Aortic Stenosis
   iii. Cardiomyopathy
   iv. Heartworm disease

h. Neurologic conditions
   i. Idiopathic epilepsy
   ii. Vestibular disease
   iii. Intervertebral disc disease
   iv. Separation anxiety

i. Preventative Therapy
   i. Heartworm, other worms
   ii. Flea/tick
   iii. Management of poisonings

j. Gastrointestinal System
   i. Acute gastroenteritis
   ii. Anti-nausea / acid-reducers
   iii. Pancreatitis

3. Compare and contrast therapies for the above disease states occurring in humans and how their therapies are similar and/or different

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<thead>
<tr>
<th>Grading</th>
<th>Exams</th>
<th>90 points (30 points per exam)</th>
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<tbody>
<tr>
<td></td>
<td>Topic Discussions</td>
<td>60 points (5 points per discussion)</td>
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<tr>
<td></td>
<td>Calorie Count Exercise</td>
<td>20 points</td>
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<tr>
<td></td>
<td>Reflection Papers</td>
<td>40 points (20 points per paper)</td>
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<tr>
<td></td>
<td>Monograph</td>
<td>30 points (20 points for exercise, 10 points for “quiz”)</td>
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<table>
<thead>
<tr>
<th>Letter Grades</th>
<th>A 92.5% - 100%</th>
<th>A- 89.5% - 92.4%</th>
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</thead>
<tbody>
<tr>
<td>B+</td>
<td>B 87.4% - 82.5%</td>
<td>B- 79.5% - 82.4%</td>
</tr>
<tr>
<td>C+</td>
<td>C 72.5% - 77.4%</td>
<td>C- 69.5% - 72.4%</td>
</tr>
<tr>
<td>D+</td>
<td>D 59.5% - 67.4%</td>
<td>F &lt; 59.4%</td>
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Lecture and Topic Discussion Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Online Presentations</th>
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<tr>
<td>January 16</td>
<td>Introduction to Veterinary Pharmacotherapy, Drug Delivery in Pets</td>
</tr>
<tr>
<td>January 23</td>
<td>Endocrine 1: Diabetes, Addison’s Disease, Cushing’s Disease</td>
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<td>January 30</td>
<td>Preventative Therapy</td>
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<tr>
<td>February 6</td>
<td>Pain Management</td>
</tr>
<tr>
<td>February 10/11</td>
<td>Exam 1</td>
</tr>
<tr>
<td>February 13</td>
<td>Dermatology</td>
</tr>
<tr>
<td>February 20</td>
<td>Neurology/Behavior</td>
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<tr>
<td>February 27</td>
<td>Endocrine 2: Hyperthyroidism, Hypothyroidism</td>
</tr>
<tr>
<td>March 6</td>
<td>GI System</td>
</tr>
<tr>
<td>March 9/10/11</td>
<td>Exam 2</td>
</tr>
<tr>
<td>March 13 –17: Spring Break</td>
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<tr>
<td>March 20</td>
<td>Infectious Diseases</td>
</tr>
<tr>
<td>March 27</td>
<td>Ophthalmology</td>
</tr>
<tr>
<td>April 3</td>
<td>Cardiology</td>
</tr>
<tr>
<td>April 10</td>
<td>Urology &amp; Nephrology</td>
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<tr>
<td>April 14/15</td>
<td>Exam 3</td>
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Assignments/Due Dates

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Date Due</th>
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<tr>
<td>1st Reflection Paper</td>
<td>January 27th</td>
</tr>
<tr>
<td>Calorie Count Activity</td>
<td>February 3rd</td>
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<tr>
<td>Monograph Paper</td>
<td>March 24th</td>
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<tr>
<td>Monograph Quiz</td>
<td>March 31th (all day quiz)</td>
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<tr>
<td>Second Reflection Paper</td>
<td>April 14th</td>
</tr>
<tr>
<td>Topic Discussions</td>
<td>Due by Saturday, 5pm CST each week</td>
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*All assignments are due by 5:00pm CST unless noted otherwise.

CONTENT

This course is divided into three modules, with each module being released staggered throughout the semester. Each module is designed such that a topic is reviewed each week. Students are encouraged to look at future content within the open module. A new module will be released the Monday prior to an exam.

TOPIC DISCUSSIONS

Each week a new topic discussion will be posted at 6:30am CST on Monday. Within the week you must comment twice on the topic, (1) to make your own statement, and (2) to comment on another person’s statement. Each topic is worth 5 points and will be closed at 5:00pm CST on Saturday.

REFLECTION PAPERS

There will be two reflection papers in this course. The first is due by Friday, January 27th at 5:00pm CST. The second paper is due Friday, April 14th at 5:00pm CST and may be uploaded anytime after Monday March 27th. Each paper should be double-spaced and less than one page in length, using 1” margins and a 12 point font.

First reflection paper should include:
- Why you decided to take this class
- What you hope to learn from this class
- Your current assumption/opinion on veterinary pharmacotherapy or veterinary pharmacy

In the second reflection paper you should revisit your first reflection paper and comment on how your view of veterinary pharmacotherapy has changed after taking this class.
Papers not submitted on time will be deducted 2 points per 24 hours late.

**CALORIE COUNT ASSIGNMENT**
A “calorie count” assignment will be due on Friday, February 3rd at 5:00pm CST. This will entail using the website http://www.petobesityprevention.com/ to determine calorie content of foods and estimate diets that a patient should be on. Assignments not submitted on time will be deducted 2 points per 24 hours late.

**MONOGRAPH ACTIVITY**
Posted under the Monograph Activity is a list of drugs commonly used in veterinary medicine. You will write a monograph (specifically, “owner education” material that would go home with the client) for one medication from this list. The monograph will be due no later than Friday, March 24th at 5:00pm CST. Monographs not submitted on time will be deducted 2 points per 24 hours late.

A pdf of all monographs will be posted Monday, March 27th at 6:00am CST for you to review. A short quiz will be opened at 12:01am on Friday, March 31st and closed Friday, March 31st at 11:59pm regarding the posted monographs. This quiz is open-note but limited to 30 minutes.

**EXAMS**
There will be three exams in this course. The dates are shown in the schedule above. Exams will be online only. The exams will open Friday morning at 12:01AM CST and close Saturday night at 11:59PM CST, with the exception of Exam 2, which will be open Thursday morning through Saturday evening to accommodate Spring Break travel. You may start the exam at any time, but once you start you will have 90 minutes to complete the exam. Exams are closed notes and you will be held to the honor code. Failure to take the exam during the time period will result in a zero grade for the exam.

Central Syllabus
University of Minnesota and College of Pharmacy

This document reflects the standard policies applicable to all College of Pharmacy courses. Course specific syllabi will refer to this document rather than repeating these policies in each syllabus.

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- Honor Code (UMN)
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Academic Integrity and Scholastic Dishonesty (Conduct Code)

Academic integrity is essential to a positive teaching and learning environment. All students enrolled in University courses are expected to complete coursework responsibilities with fairness and honesty. Failure to do so by seeking an unfair advantage over others or misrepresenting someone else’s work as your own can result in disciplinary action. The University Student Conduct Code defines scholastic dishonesty as follows:

Scholastic Dishonesty: Scholastic dishonesty means plagiarizing; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; altering forking , or misusing a University academic record; or fabricating or falsifying data, research procedures, or data analysis.

http://www1.umn.edu/regents/policies/academic/Student_Conduct_Code.pdf

Academic Freedom and Responsibility

Academic freedom is a cornerstone of the University. Within the scope and content of the course as defined by the instructor, it includes the freedom to discuss relevant matters in the classroom. Along with this freedom comes responsibility. Students are encouraged to develop the capacity for critical judgment and to engage in a sustained and independent search for truth. Students are free to take reasoned exception to the views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled.*

Reports of concerns about academic freedom are taken seriously, and there are individuals and offices available for help. Contact the instructor, the Department Chair, your adviser, the associate dean of the college, or the Vice Provost for Faculty and Academic Affairs in the Office of the Provost.

*Language adapted from the American Association of University Professors “Joint Statement on Rights and Freedoms of Students”

Academic Workload Policy for Students

For professional level PharmD courses, one credit is defined as equivalent to 3.5 hours of learning effort per week, including in class and out of class hours (over a full semester) necessary for an average student to achieve an average grade in the course.

Per University guidelines, it is expected that the academic work required of Graduate School and professional school students will exceed three hours per credit per week.

http://policy.umn.edu/Policies/Education/Education/STUDENTWORK.html

Attendance Policy

Students are expected to attend every class for which they are registered. Students are expected to attend classes on the campus where they are enrolled. Instructors may choose to take attendance. See Make Up Work for Legitimate Absences for more information.
Copyright Notice
All original materials for this course, including all recorded lectures, are protected by United States copyright law and may not be reproduced, distributed, transmitted, displayed, published or broadcast without the prior written permission of the Regents of the University of Minnesota.

Course Evaluations
Students will have an opportunity to complete online course evaluations for instructors and the course itself (including instructional strategies, etc) at the end of the semester. You are encouraged to contact one of the course directors or the Course Support Specialist any time you have concerns about the course or your progress in the course.

Course Handouts and Materials
Course handouts and materials will be provided in electronic formats wherever possible. Course handouts will be available on-line as a PDF file, one slide/page. This allows maximum flexibility in printing (such as multiple slides per page), if printing of material is desired. Materials will be made available only on the Moodle site; physical copies of course packets will not be available for purchase in the bookstore. Whenever possible, the materials will be posted one week prior to a class period, or earlier if available.

Disability Accommodations
The University of Minnesota is committed to providing equitable access to learning opportunities for all students. Disability Services (DS) is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations.

· If you have, or think you may have, a disability (e.g., mental health, attentional, learning, chronic health, sensory, or physical), please contact DS on your local campus to arrange a confidential discussion regarding equitable access and reasonable accommodations.

· If you are registered with DS and have a current letter requesting reasonable accommodations, we encourage you to contact your instructor early in the semester to review how the accommodations will be applied in the course.

Additional information is available on the DS website:
https://diversity.umn.edu/disability/

Disability Services   Disability Services & Resources
McNamara Alumni Center   256 Kirby Student Center
200 Oak St SE Suite 180   1120 Kirby Drive
Minneapolis, MN 55455   Duluth, MN 55812
612-626-1333   218-726-8217
www.ds.umn.edu/students/   www.d.umn.edu/access/

Equity, Diversity, Equal Employment Opportunity, and Affirmative Action
University policy that guides the commitment of the University of Minnesota (University) to equity, diversity, equal opportunity, and affirmative action.
Exam Policies

Exam Make-up Policy
Please note MAKE-UP EXAMINATIONS WILL NOT BE OFFERED EXCEPT UNDER THE FOLLOWING CIRCUMSTANCES: illness, verified by a note from a licensed professional; a family emergency, verified by a note from the professional person in attendance; or a University-sponsored event, verified by a note from the leader of the sponsoring organization. Additional circumstances will be considered at the discretion of the course or section director, but are not likely to be granted. If a student is unable to attend the scheduled exam, the relevant section director must be notified (by email AND phone) at least 24 hours in advance of the exam time (where possible). If you do not receive a reply to your request prior to the exam time, please do NOT assume that your request has been granted; contact us again to confirm that your request was received and processed. If an acceptable circumstance or adequate documentation is not provided, a grade of zero on the exam will be assigned by the course or section director. Unless there are extenuating circumstances, students must contact the section or course director within 24 hours of the missed scheduled exam in order to be considered for a make-up assignment. Unless there are extenuating circumstances, the make-up exam date is generally not more than one week after the original exam date.

FERPA
Per University statement regarding FERPA (Family Educational Rights and Privacy Act): In this class, our use of technology may make students’ names and U of M Internet IDs visible within the course website, but only to other students in the same class. Since we are using a secure, password-protected course website, this should not increase the risk of identity theft or spamming for anyone in the class. If you have concerns about the visibility of your Internet ID, please contact our office. Visit http://onestop.umn.edu/staff/ferpa_tutorial/slide1.html for more information.

Grading
Policies for a standard grading system establishing a common understanding of the meaning of grades and promoting uniformity in assigning them.
College of Pharmacy:

University of Minnesota:
http://policy.umn.edu/Policies/Education/Education/GRADINGTRANSCRIPTS.html

Honor Code (College of Pharmacy)
Each student is bound by the honor code which defines academic misconduct as any unauthorized act which may give a student an unfair advantage over other students, including but not limited to: falsification, plagiarism, misuse of test materials, receiving unauthorized assistance and giving unauthorized assistance. Specifically, each student will be required to do their own work on all quizzes (on line or written), tests, oral and written exams unless otherwise advised by the course instructors. For exams or other assessments that are not returned to students by the instructors, it will be considered a “misuse of test materials” and therefore a violation of the honor code to copy, scan, photograph or otherwise re-construct such assessment content.
You signed the following statement upon accepting placement in the University of Minnesota College of Pharmacy:

*I hereby affirm that I have read and understood the provisions and stipulations of the University of Minnesota Pharmacy Student Code of Ethical Responsibility and Professional Behavior.*

The Code was established in the belief that central to any intellectual and professional endeavor is an atmosphere of mutual trust and respect, based on individual maintenance of community standards. Your professional community starts here...at the College of Pharmacy with your peers, faculty, preceptors, staff and administration. It is our expectation that you will exhibit professional behavior towards other students and to faculty in the classroom at all times. In turn, we will treat you with the professional respect you deserve.


**Honor Code (UMN)**

Academic misconduct is any unauthorized act which may give a student an unfair advantage over other students, including but not limited to: falsification, plagiarism, misuse of test materials, receiving unauthorized assistance and giving unauthorized assistance. Instructors or a fellow student may report academic misconduct during an exam to the Course Instructors and the Honor Council for investigation.

**Makeup Work for Legitimate Absences**

It is in both the University's and the student's interest to outline some academic protections for students when they miss class for legitimate reasons. This policy places parameters around what is a legitimate absence. Of note excused absences include: illness of the student or his or her dependent, participation in intercollegiate athletic events, subpoenas, jury duty, military service, bereavement, and religious observances. The instructor has the right to request verification.

http://policy.umn.edu/Policies/Education/Education/MAKEUPWORK.html

**Mental Health Accommodations**

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student’s ability to participate in daily activities. University of Minnesota services are also available to assist you with addressing these and other concerns you may be experiencing. You can learn more about the broad range of confidential mental health services available on the Twin Cities campus via the Student Mental Health Website at [http://www.mentalhealth.umn.edu](http://www.mentalhealth.umn.edu), or on the Duluth campus via the Counseling Services site at [http://www.d.umn.edu/hlthserv/counseling/](http://www.d.umn.edu/hlthserv/counseling/). This information will be kept confidential.

**Recording Policy**

For information relevant to the recording policy for the college, please refer to the following link.

http://z.umn.edu/recordingpolicy

**Sexual Harassment Policy**

Policy governing the commitment to the prevention and awareness of and response to sexual harassment at the University of Minnesota.

http://regents.umn.edu/sites/default/files/policies/SexHarassment.pdf
Teaching and Learning: Instructor and Unit Responsibilities

Clarifies and outlines responsibilities, to provide clear expectations for the instructor and the instructor’s department and college.
http://policy.umn.edu/Policies/Education/Education/INSTRUCTORRESP.html

Teaching and Learning: Student Responsibilities

Clarifies and outlines student responsibilities and expectations for enrollment and participation in a course. Includes Appropriate Student Use of Class Notes and Course Materials, and Use of Electronic Devices in the Classroom.
http://policy.umn.edu/Policies/Education/Education/STUDENTRESP.html

Technical Support for Online Quizzes

For help with Moodle quiz issues, go to http://www.oit.umn.edu/moodle/student-guides/quiz-tips. If you need further help, don’t hesitate to call technology support at 612-301-4357 (1-Help Twin Cities) / 218-726-8847 (ITSS Help Desk Duluth). They are there to help.

Note: Instructors will not accept late work if a student has technical difficulties but does not attempt all avenues of technical support to correct the problem.