

**PROFESSIONAL VETERINARY  
MEDICINE**

**COURSE OUTLINES  
Spring Semester 2009**

**CVMBS**

**COLORADO STATE UNIVERSITY**

**January, 2009**

**COURSE NUMBER AND TITLE****COURSE COORDINATOR**

ANEQ445	Foaling Management	Dr. McCue
FIN305	Fundamentals of Finance	Mr. Bruce MacKay
BUS205	Legal/Ethical Issues Business	Mac V. Danford, J.D.
VM619	Veterinary Neurobiology	Dr. Whalen
VM621	Exotic Animal Anatomy & Husbandry	Drs. Campbell/Pitcaithley
VM623	Vet. Nutrition & Metabolism	Drs. VanMetre and Lappin
VM637	Veterinary Bacteriology and Mycology	Dr. Torres
VM639	Veterinary Virology and Parasitology	Dr. Ballweber
VM640	Biology of Disease I	Dr. Mason
VM648	Food Animal Production & Food Safety	Dr. Garry
VM712	Practice Management/Prof Dev.	Dr. Hardy
VM716	Principles of Shelter Veterinary Medicine	Dr. Ruch-Gallie
VM726	Principles of Imaging Interpretation I	Dr. Kraft
VM731	Biology & Disease of Small Mammal	Dr. Johnston
VM733	Principles of Surgery	Dr. Egger
VM737	Principles of Anesthesia	Dr. Hellyer
VM742	Biology of Disease III	Dr. Schultheiss
VM744	Theriogenology	Dr. Gordon Woods
VM745	Clinical Sciences I	Dr. Twedt
VM747	Clinical Sciences II	Dr. Orton
VM757	Bovine Herd Medicine	Dr. Dinsmore
VM763	Equine Med. and Surgery I	Drs. Hendrickson & Schoenfeld-Tacher
VM773	Small Animal Med. and Surgery I	Dr. Bright
VM774	Small Animal Med. and Surgery II	Dr. Dowers
VM780A1	Professional Writing for Veterinarians	Mr. Lovelace and Dr. Schoenfeld-Tacher
VM786AV	Junior Practicum	Dr. Powell
VM786BV	Senior Practicum	Dr. Garry
VM796F	Small Animal Diagnostic Problems	Dr. Schoenfeld-Tacher

## ***FOALING MANAGEMENT (AN 445)***

### **Spring 2009**

<b><u>DATE</u></b>	<b><u>Lec #</u></b>	<b><u>Inst.</u></b>	<b><u>LECTURE TOPIC</u></b>
Jan 22	1	JB	Course Introduction and Care of the Expectant Mare
Jan 29	2	PM	Prediction of Foaling and Physiology of Parturition
Feb 5	3	JB	Foaling
Feb 12	4	CD	Care of the Newborn Foal
Feb 19	5	JB	Care of the Postpartum Mare
Feb 26	6	PM	Complications of Pregnancy - I
Mar 5	7	PM	Complications of Pregnancy – II
Mar 12			Exam # 1 - Lectures 1-7
Mar 16-20	-		<i>Spring Break (Foaling opportunities will be available during Spring Break for students staying in the area; thank you in advance for your assistance)</i>
Mar 26	8	PM	Dystocia
April 2	9	RF	Complications of the Postpartum Period
April 9	10	PM	Lactation, Agalactia and Mastitis
April 16*	11	PM	Induction of Labor (* date may be variable due to mare availability)
April 23	12	PM	Diseases of the Newborn Foal –I
April 30	13	PM	Diseases of the Newborn Foal – II
May 7	14	PM	Miscellaneous Topics
May ?TBA	-		Exam # 2 – Lectures 8-14 (Time TBA) in Path 101
Finals Week			

# Fundamentals of Finance

## FIN 305 Section 1

### Spring 2009

Instructor: Mr. Bruce MacKay  
Office: 321 Rockwell Hall  
Phone: 491-7638  
e-mail: bruce.mackay@colostate.edu  
Office Hours: MWF 8:00am – 9:45am and by appointment.  
Prerequisites: BA205 and EC204 or equivalents  
Class Meets: MWF 10:00 - 10:50: Room A205 Clark  
Web Site: [COB Faculty - Bruce MacKay](#)

TEXT: The required text is available for FREE online at the Freeload Press website.  
Here's the website: [www.freeloadpress.com](http://www.freeloadpress.com)

Financial Management: Principals and Practice, 4e, by Gallagher and Andrew,  
**REQUIRED!**

**CALCULATOR:** The Texas Instruments **BAlI PLUS** calculator (or its equivalent) is **REQUIRED**. We will be using the advanced financial functions of this calculator extensively in class. The demonstrations in the text of advanced financial functions use the TI-BAlI PLUS calculator as the model. Other calculators have similar operations and students may use them. For those students who choose to use another calculator, personal time spent with the instructor should be adequate.

FIN305 Course Objective:

To investigate major areas of finance and the roll of finance in management of the firm, designed for the non-business major. The course will analyze the role and structure of financial markets and institutions, valuation of basic securities, and key elements of corporate financial management.

FIN305 Overview:

In this course, we examine the role of the financial manager within a firm. Theory and problem solving will be stressed within the framework of the goal of the firm. Some of the topics covered will include: financial analysis and planning, working capital management, capital budgeting, long term financing and numerous valuation models.

Although this course emphasizes corporate decision making, the skills obtained will also aid the student in personal finance and small business decision making. Risk and reward analysis is central to most of what we do in this course. The student should strive to both understand the concepts and to solve the problems presented in the course.

The financial environment within which the financial manager operates is also studied. Financial markets and institutions are sources of funds for the firm. They also provide opportunities for investing available cash. An understanding of the financial system is necessary to solve the financial problems of the firm. Web based technology will be used extensively throughout the course.

Grading:

There will be three regular exams, a final exam, a problem set, five quizzes, and six homework assignments. Instructions for these assignments will be discussed in class.

Points will be assigned as follows:

Exam I .....	100 points
Exam II. ....	100 points
Exam III .....	100 points
Final Exam .....	100 points
TVM Assignments .....	60 points
Quizzes .....	50 points
Problem Set. ....	30 points

Grades will be determined on the basis of total points received with all points and assignments weighted equally. You are encouraged to do additional problems and practice the problems by working them more than once. This will help improve your speed and accuracy and should improve your test scores

Grading Policy:

Grades will be given in the traditional method of A (90%), B (80%), C (70%), D (60%), F (<60%), and a plus/minus basis will **not** be used.

Any unexcused absence from an exam or quiz will result in a grade of zero for that exam or quiz. **No late homework assignments or problem sets will be accepted.**

Makeup exams will be considered only if there is a valid reason that is due to circumstances beyond the student's control that is verifiable, such as illness with a written doctor's excuse, or if the student has a University sanctioned excuse. The student must notify the instructor **before** the intended absence. The makeup exam will not be the same as the exam taken by the rest of the class. The makeup will have a different format, such as all essay and / or numerical problems.

Cheating will not be tolerated and will be reported to the University and the University policy will be strictly enforced.

Attendance Policy

Students are required to attend class every day. Students are responsible for all material covered in class and for any assignments given in class.

RAMCT policy:

Students are required to have access to a RAMCT account so that the instructor can relay information in an expedient fashion. The student should check their e-mail daily. This course will be using RAMCT extensively for problems sets, homework assignments, quizzes, and general information

Web Sites: The course will use a number of web sites for research and information. These will be shown in class and are available on the Instructor web site.

## COURSE OUTLINE

Date:

- Jan. 21 The Role of the Financial Manager (Chapter 1)  
Jan. 23 The Role of the Financial Manager (Chapter 1 continued)
- Jan. 26 Financial Markets & Interest Rates (Chapter 2)  
Jan. 28 Financial Markets & Interest Rates (Chapter 2)  
Jan. 30 Financial Markets & Interest Rates (Chapter 2 continued)
- Feb. 2 Review of Accounting (Chapter 4)  
Feb. 4 Review of Accounting (Chapter 4 continued)  
Feb. 6 Review of Accounting (Chapter 4 continued)
- Feb. 9 Analysis of Financial Statements (Chapter 5)  
Feb. 11 Analysis of Financial Statements (Chapter 5 continued)  
Feb. 13 **Exam I !!!!!!!!!!!**
- Feb. 16 Forecasting (Chapter 6)  
Feb. 18 Risk and Return (Chapter 7)  
Feb. 20 The Time Value of Money (Chapter 8)
- Feb. 23 Insurance  
Feb. 25 The Time Value of Money (Chapter 8 continued)  
Feb. 27 The Time Value of Money (Chapter 8 continued)
- Mar. 2 Cost of Capital (Chapter 9)  
Mar. 4 Corporate Bonds, Preferred Stock, and Leasing (Chapter 14 continued)  
Mar. 6 Bond and Stock Valuation (Chapter 12)
- Mar. 9 Bond and Stock Valuation (Chapter 12 continued)  
Mar. 11 Bond and Stock Valuation (Chapter 12 continued)  
Mar. 13 Capital Budgeting (Chapter 10)
- Mar. 16 – 20 Spring Break
- Mar. 23 Capital Budgeting (Chapter 10 continued)  
Mar. 25 Capital Budgeting (Chapter 10 continued)  
Mar. 27 **Exam II !!!!!!!!!!!**
- Mar. 30 Estimating Incremental Cash Flows (Chapter 11)  
Apr. 1 Estimating Incremental Cash Flows (Chapter 11 continued)  
Apr. 3 Breakeven analysis (Chapter 13)
- Apr. 6 Common Stock (Chapter 15)  
Apr. 8 Common Stock and Indices (Chapter 15 continued)  
Apr. 10 Mutual Funds (Lecture only)
- Apr. 13 Retirement Accounts (Lecture only)  
Apr. 15 Working Capital Policy (Chapter 17)  
Apr. 17 Cash Management (Chapter 18)
- Apr. 20 Cash Management (Chapter 18 continued)  
Apr. 22 Accounts Receivable and Inventory (Chapter 19)  
Apr. 24 **Exam III !!!!!!!!!!!**
- Apr. 27 Short Term Financing (Chapter 20)  
Apr. 29 Short Term Financing (Chapter 20 continued)  
May. 1 International Finance (Chapter 21)

May. 4 International Finance (Chapter 21)

May. 6 International Finance (Chapter 21)

May. 8 Review

Finals week May 11 – 15

Tentative Final Schedule

FIN305 Section 1 is scheduled for Monday, May 13, 3:40 pm

FIN305 Section 2 is scheduled for Monday, May 11, 7:00am

Suggested Problems and Questions

The student should attempt all review questions at the end of each chapter!

**Veterinary Neurobiology VM619 Week 1 Spring 2009**

	1/19 Monday	1/20 Tuesday	1/21 Wednesday	1/22 Thursday	Friday
8:00 AM					
9:00 AM	Martin Luther King Jr. Day		Lecture 2  Topographic Anatomy of Brain  (Fails)		
10:00 AM		Lecture 1  Introduction to the Veterinary Neurobiology  Notes: Chapter 1 RamCT HVN: pp 3-8  Discuss Take-home Cases. Case A Handout  (Whalen)	Lab 1 Anatomy of Brain  Demonstration: Virtual Canine Anatomy (VCA) DVD & Intro to Gross Anatomy of the Brain  Handout: Objectives Lab Guide: VCA DVD GDD: pp 320-338 TVA: pp 263-264	Lecture 3  Topographic Anatomy of Brain  (Fails)	
11:00 AM					
12:00 PM				Cube Rep Mtg. W1	

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**Veterinary Neurobiology VM619 Week 2 Spring 2009**

	1/26 Monday	1/27 Tuesday	1/28 Wednesday	1/29 Thursday	Friday
8:00 AM					
9:00 AM	<b>Lecture 4</b> Neurohistology Notes: Chapter 3 VM619 CD (Pitcaithley) Case A Due Case 1A & B Handout		<b>Lecture 6</b> Neuroembryology Notes: Chapter 2 (Fails)		
10:00 AM	<b>Lab 2</b> Anatomy of Brain or Neurohistology Demonstration: Brain Tour Gross Anatomy of the Brain Handout: Objectives Lab Guide: VCA DVD GDD: pp 320-338 TVA: pp 263-264 or	<b>Lecture 5</b> Neurohistology Notes: Chapter 3 VM619 CD (Pitcaithley)	<b>Lab 3</b> Anatomy of Brain or Neurohistology Demonstration: Brain Tour Gross Anatomy of the Brain Handout: Objectives Lab Guide: VCA DVD GDD: pp 320-338 TVA: pp 263-264 or	<b>Lecture 7</b> Cranial Nerve Examination Notes: Chapter 4 VM619 CD: Cranial Nerves GDD: pp 306-312 HVN: pp 28-35 (Whalen)	
11:00 AM	<b>Neuro Histology Lab #1:</b> Lab Guide (end of Notes): Histo Lab Notes: Chapter 3 VM619 CD (1/3 of Cubes) (Pitcaithley)		<b>Neuro Histology Lab #2:</b> Lab Guide (end of Notes): Histo Lab Notes: Chapter 3 VM619 CD (1/3 of Cubes) (Pitcaithley)		
12:00 PM					

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**Veterinary Neurobiology VM619 Week 3 Spring 2009**

	2/2 Monday	2/3 Tuesday	2/4 Wednesday	2/5 Thursday	Friday
8:00 AM					
9:00 AM	<p><b>Lecture 8</b></p> <p><b>Cranial Nerve Examination</b></p> <p>Notes: Chapter 4 VM619 CD: Cranial Nerves GDD: pp 306-312 HVN: pp 28-35</p> <p>(Whalen)</p> <p>Case 1 Due</p> <p>Case 2 Handout</p>		<p><b>Lecture 10</b></p> <p><b>Blood Supply, Ventricular System, CSF &amp; Meninges</b></p> <p>Notes: Chapter 5</p> <p>(Fails)</p>		
10:00 AM	<p><b>Lab 4</b> Anatomy of Brain or Neurohistology</p> <p>Presentation of Brain Tour</p> <p>Gross Anatomy of the Brain</p> <p>Handout: Objectives Lab Guide: VCA DVD GDD: pp 320-338 TVA: pp 263-264</p>	<p><b>Lecture 9</b></p> <p><b>Cranial Nerve Examination</b></p> <p>Notes: Chapter 4 VM619 CD: Cranial Nerves GDD: pp 306-312 HVN: pp 28-35</p> <p>(Whalen)</p>	<p><b>Lab 5</b> Cranial Nerve Case Study</p> <p>Presentation of Brain Tour</p> <p>Blood Supply, Ventricular System, CSF &amp; Meninges</p> <p>Pathology Demonstrations – Dr. Whalen to present cases.</p>	<p><b>Lecture 11</b></p> <p><b>Blood Supply, Ventricular System, CSF &amp; Meninges</b></p> <p>Notes: Chapter 5</p> <p>(Fails)</p>	
11:00 AM	<p>or</p> <p>Neuro Histology Lab #3: Lab Guide (end of Notes): Histo Lab Notes: Chapter 3 VM619 CD (1/3 of Cubes) (Pitcaithley)</p>				
12:00 PM				Cube Rep Mtg. W1	

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**Veterinary Neurobiology VM619 Week 4 Spring 2009**

	2/9 Monday	2/10 Tuesday	2/11 Wednesday	2/12 Thursday	Friday
8:00 AM					
9:00 AM	<p><b>Lecture 12</b></p> <p><b>Blood Supply, Ventricular System, CSF &amp; Meninges</b></p> <p>Notes: Chapter 5 (Fails)</p> <p>Case 2 Due</p> <p>Case 3 Handout</p>		<p><b>Lecture 14</b></p> <p><b>Nervous System Signaling: Peripheral Neuropathy</b></p> <p>Notes: Chapter 6  (Whalen)</p>		
10:00 AM	<p><b>Lab 6</b></p> <p><b>Clinical Examination of the Cranial Nerves Demonstrations</b></p> <p><b>Blood Supply, Ventricular System, CSF &amp; Meninges</b></p>	<p><b>Lecture 13</b></p> <p><b>Nervous System Signaling: Reflex Arc</b></p> <p>Notes: Chapter 6 HVN: pp 19-27 VM619 CD  (Whalen)</p>	<p><b>Lab 7</b></p> <p><b>Your Cube: Clinical Examination of the Cranial Nerves</b></p> <p><b>W106: Case Review (Whalen)</b></p>	<p><b>Lecture 15</b></p> <p><b>Nervous System Signaling: Case Presentations</b></p> <p>Notes: Chapter 6  (Whalen)</p>	
11:00 AM					
12:00 PM					

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**Veterinary Neurobiology VM619 Week 5 Spring 2009**

	2/16 Monday	2/17 Tuesday	2/18 Wednesday	2/19 Thursday	Friday
8:00 AM					
9:00 AM	<b>1<sup>st</sup> EXAM</b> Lectures: 1-15 Labs: 1-7 Case 3 Due Case 4 Handout		Lecture 17 Spinal Cord Anatomy VM619 CD Notes: Chapter 7 GDD: pp 338-344 VNCN: pp 53-61 (Whalen)		
10:00 AM		Lecture 16 Spinal Nerve and Spinal Cord Anatomy VM619 CD Notes: Chapter 7 GDD: pp 338-344 VNCN: pp 53-61 (Whalen)	Lab 8 Spinal Cord Anatomy: Thoracolumbar Laminectomy (1/2 lab)	Lecture 18 Somatosensory Systems Notes: Chapter 8 (Fails)	
11:00 AM					
12:00 PM				Cube Rep Mtg. W1	

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**Veterinary Neurobiology VM619 Week 6 Spring 2009**

	2/23 Monday	2/24 Tuesday	2/25 Wednesday	2/26 Thursday	Friday
8:00 AM					
9:00 AM	<b>Lecture 19</b>  <b>Conscious Proprioception</b>  <b>Notes: Chapter 9</b>  <b>(Fails)</b>  <b>Case 4 Due</b>  <b>Case 5 Handout</b>		<b>Lecture 21</b>  <b>Pain Modulation</b>  <b>Notes: Chapter 10</b>  <b>(Fails)</b>		
10:00 AM	<b>Lab 9</b> <b>Spinal Cord Anatomy: Thoracolumbar Laminectomy (other 1/2 lab)</b>	<b>Lecture 20</b>  <b>Nociceptive Pathways</b>  <b>Notes: Chapter 10</b>  <b>(Fails)</b>	<b>Lab 10</b> <b>Spinal Cord Anatomy / Demonstrations</b>  <b>Spinal Cord Pathology Demonstrations - Dr. Whalen to present cases.</b>  <b>Trigeminal Nerve sensory system and case presentation – Dr. Fails</b>	<b>Lecture 22</b> <b>Upper and Lower Motor Neurons</b>  <b>Notes: Chapter 13</b> <b>RamCT</b> <b>VM619 CD</b>  <b>(Whalen)</b>	
11:00 AM					
12:00 PM					

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**Veterinary Neurobiology VM619 Week 8 Spring 2009**

	<b>3/9 Monday</b>	<b>3/10 Tuesday</b>	<b>3/11 Wednesday</b>	<b>3/12 Thursday</b>	<b>Friday</b>
<b>8:00 AM</b>					
<b>9:00 AM</b>	<b>Lecture 27</b> <b>Vestibular System</b> <b>Notes: Chapter 17</b> <b>(Fails)</b> <b>Case 6 Due</b> <b>Case 7 Handout</b>		<b>Lecture 29</b> <b>Lumbosacral Enlargement &amp; Plexus</b> <b>Notes: Chapter 15</b> <b>VM619 CD</b> <b>GDD: pp 348-352 &amp; 245-258</b> <b>(Whalen)</b>		
<b>10:00 AM</b>	<b>Lab 13</b> <b>Vestibular Movies</b> <b>(Fails)</b>	<b>Lecture 28</b> <b>Spinal Reflexes</b> <b>Notes: Chapter 14</b> <b>VM619 CD</b> <b>HVN: pp 19-27</b> <b>VNCN: pp 177-180 370-372</b> <b>(Whalen)</b>	<b>Lab 14</b> <b>Cases: Regional Signs with Transverse Myelopathies (W106)</b> <b>(Whalen)</b> <b>Neurologic Examination</b> <b>Demonstrations: Limbs</b>	<b>Lecture 30</b> <b>Cervicothoracic Enlargement &amp; Brachial Plexus</b> <b>VM619 CD</b> <b>GDD: pp 348-352, 155-156 &amp; 161-166</b> <b>(Whalen)</b>	
<b>11:00 AM</b>					
<b>12:00 PM</b>					

**Spring Break Next Week**

**Veterinary Neurobiology VM619 Week 9 Spring 2009**

	3/23 Monday	3/24 Tuesday	3/25 Wednesday	3/26 Thursday	Friday
8:00 AM					
9:00 AM	<b>Lecture 31</b> <b>Cerebellum</b> <b>Notes: Chapter 18</b> <b>(Fails)</b> <b>Case 7 Due</b> <b>Case 8 Handout</b>		<b>Lecture 33</b> <b>Auditory Systems /</b> <b>External and Middle Ear</b>  <b>(Dr. Rosychuk )</b>		
10:00 AM	<b>Lab 15</b> <b>Cerebellar Movies</b> <b>(Fails)</b>  <b>External Ear Anatomy</b> <b>(Pitcaithley)</b>	<b>Lecture 32</b> <b>Auditory System</b> <b>Notes: Chapter 16</b> <b>(Fails)</b>	<b>Lab 16</b> <b>Auditory / Ear</b> <b>Laboratory</b>  <b>(Dr. Rosychuk )</b>  <b>Your Cube:</b> <b>Neurologic Examination</b> <b>Demonstrations: Limbs</b>	<b>Lecture 34</b> <b>Motor Unit Dysfunction</b>  <b>Handout</b> <b>VM619 CD</b>  <b>(Whalen)</b>	
11:00 AM					
12:00 PM				<b>Cube Rep Mtg.</b> <b>W1</b>	

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**Veterinary Neurobiology VM619 Week 10 Spring 2009**

	3/30 Monday	3/31 Tuesday	4/1 Wednesday	4/2 Thursday	Friday
8:00 AM					
9:00 AM	<p>2<sup>nd</sup> EXAM</p> <p>Lectures: 16 - 34 Labs: 8 - 16</p> <p>Case 8 Due</p> <p>Case 9 Handout</p>		<p>Lecture 36</p> <p>Brain Imaging</p> <p>Notes: Chapter 20</p> <p>(Dr. Kraft)</p>		
10:00 AM		<p>Lecture 35</p> <p>Intro to Cross Sections of Brain</p> <p>Notes: Chapter 19 VM619 CD Handout</p> <p>(Whalen)</p>	<p>Lab 17</p> <p>Brain Imaging</p> <p>Laboratory setup</p>	<p>Lecture 37</p> <p>Eye</p> <p>Notes: Chapter 21</p> <p>(Fails)</p>	
11:00 AM					
12:00 PM					

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**Veterinary Neurobiology VM619 Week 11 Spring 2009**

	4/6 Monday	4/7 Tuesday	4/8 Wednesday	4/9 Thursday	Friday
8:00 AM					
9:00 AM	<b>Lecture 38</b> Eye Notes: Chapter 21 (Fails) Case 9 Due Case 10 Handout		<b>Lecture 40</b> Clinical Eye Examination (Powell)		
10:00 AM	<b>Lab 18</b> Cross Sectional Anatomy VM619 CD Lab Guide: Cross-sectional Anatomy Notes: Dr. Whalen Case Presentation (Whalen)	<b>Lecture 39</b> Eye Notes: Chapter 21 (Fails)	<b>Lab 19</b> Eye Anatomy Laboratory Demonstrations: Ophthalmologic Examination (Powell)	<b>Lecture 41</b> Visual & Pupillary Reflex Pathways Notes: Chapter 22 VNCN: pp 286-292 (Fails)	
11:00 AM					
12:00 PM				Cube Rep Mtg. W1	

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**Veterinary Neurobiology VM619 Week 12 Spring 2009**

	4/13 Monday	4/14 Tuesday	4/15 Wednesday	4/16 Thursday	Friday 4/17
8:00 AM					Breeds Test #3 Due 8 am
9:00 AM	<b>Lecture 42</b>  <b>Clinical Significance of ANS</b>  Notes: Chapter 23  (Fails)  Case 10 Due  Case 11 Handout		<b>Lecture 44</b>  <b>Functional Cortical Anatomy</b>  Notes: Chapter 24  (Fails)		
10:00 AM	<b>Lab 20</b> <b>Clinical Significance of ANS Laboratory and Demonstrations</b>  Exotics Neuro Exams  (Drs. Campbell & Pitcaithley)	<b>Lecture 43</b>  <b>Clinical Significance of ANS</b>  Notes: Chapter 23  (Fails)	<b>Lab 21</b> <b>Movies &amp; Discussion: Seizures</b>  (Fails)  Case Review (Whalen)	<b>Lecture 45</b>  <b>Functional Cortical Anatomy</b>  Notes: Chapter 24  (Fails)	
11:00 AM					
12:00 PM					

**Notes:** Available Course Notes, **Guide:** Laboratory Guide,  
**GDD:** Guide to the Dissection to the Dog, 5<sup>th</sup> ed.,  
**VNCN:** Veterinary Neuroanatomy and Clinical Neurology, 2<sup>nd</sup> ed.,

**TVA:** Textbook of Veterinary Anatomy, 3<sup>rd</sup> ed.  
**HVN:** Handbook of Veterinary Neurology, 4<sup>th</sup> ed.  
**TVP:** Textbook of Veterinary Physiology, 2<sup>nd</sup> ed.

**Veterinary Neurobiology VM619 Week 13 Spring 2009**

	4/20 Monday	4/21 Tuesday	4/22 Wednesday	4/23 Thursday	Friday
8:00 AM					
9:00 AM	<b>Lecture 46</b> Equine Neurological Exam Equine Neurological Exam Sheet in Lab Guides (Dr. Cuddon)  Case 11 Due Final Case Handout		<b>Final Examination</b> Dr. Fails' portion 9:00 – 11:00 Cubes, W106, & Lecture Hall		
10:00 AM	Lab 22 Equine Neurological Exam  Nervous System Repair Notes: Chapter 25 (Whalen)	<b>Lecture 47</b> Small Animal Neurological Exam  Notes: Chapter 26 (Dr. Cuddon)		<b>Lecture 48</b> Small Animal Neurological Exam  Notes: Chapter 26 (Dr. Cuddon)	
11:00 AM			<b>Final Examination</b> Case Studies [Dr. Fails portion must be turned in before cases are begun.]  Laboratory (W117) before 11:00 and anywhere after 11:00.		
12:00 PM				Cube Rep Mtg. W1	

**Final Examination Due: April 27, 2009 by 5 pm or Before**

**VM 621 Exotic Animal Anatomy & Husbandry**  
2 credit elective  
Class Schedule Spring 2009

Course Co-Coordinators: Terry W. Campbell, MS, DVM, PhD, B208 VMC, 297-1219 &  
Sandra Pitcaithley, MA, DVM, W113 Anatomy, 491-5775

Husbandry Coordinator: Dr. Terry Campbell

Husbandry Instructors: Terry Campbell, MS, DVM, PhD, CSU, Zoological Medicine  
Matt Johnston, VMD, DABVP-Avian, CSU, Zoological Medicine  
Dave Remple, DVM, Falconer  
Judy Scherpelz, Director of the Rocky Mountain Raptor Center

The husbandry section meets at VTH, Room B213 (Junior Lecture Hall), on Tuesdays from 3:10 – 4:00 pm.

Anatomy Coordinator: Dr. Sandra Pitcaithley

Instructors: Drs. Sandra Pitcaithley & James Madl

Clinical Lab Instructors: Drs. T. Campbell, K. Grant, J. Madl, & S. Pitcaithley

Veterinary Teaching Assistant: Sarah Shropshire, Sophomore Veterinary Student

The anatomy section meets in Anatomy W117, on Wednesdays from 3:00 – 4:50 pm.

Husbandry Lectures

1/20: Introduction & Aquariology (TC)  
1/27: Fish Diagnostics & Water Quality (TC)  
2/3: Amphibians (TC)  
2/10: Chelonians (TC)  
2/17: Lizards (TC)  
2/24: Snakes (TC)  
3/3: Reptile Clinical Techniques (TC)  
3/10: Raptors (JS)

SPRING Break\*\*\*\*\*

3/24: Falcons (DR)  
3/31: Galliformes (MJ)  
4/7: Ratites (TC)  
4/14: Anseriformes (MJ)  
4/21: Psittaciformes (TC)  
4/28: Avian Clinical Techniques (TC)  
5/5: Passeriformes/Columbiformes (TC)

Anatomy Laboratory

1/21: Introduction & Fish Anatomy (SP)  
1/28: Fish Diagnostics & Water Quality (TC, SP, SS)  
2/4: Amphibian Anatomy (SP)  
2/11: Chelonian Anatomy (SP)  
2/18: Lizard Anatomy (SP)  
2/25: Snake Anatomy (SP)  
3/4: **EXAM #1 ECTOTHERMS**  
3/11: Avian External Anatomy (SP)  
3/25: Avian Skeleton (SP)  
4/1: Avian Muscles (SP)  
4/8: Avian Gastrointestinal (SP)  
4/15: Avian Circulatory/Urogenital (SP)  
4/22: Avian Respiratory/Endocrine (SP)  
4/29: All Species Clinical Lab (TC, KG, JM, SP, SS)  
5/6: **EXAM #2 AVIAN**

**FINAL EXAM: 5/2 (6 am) – 5/14 (10 pm), WebCT Species ID, Closed Resources**

<b>VM 623 Veterinary Nutrition and Metabolism</b>					
<b>Spring, 2009</b>					
<b>Date</b>	<b>Day</b>	<b>Time</b>	<b>Lecture #</b>	<b>Section 1: Fundamentals of Nutrition and Metabolism</b>	<b>Instructor</b>
20-Jan	Tues	11 - 11:50	1	Course introduction;GI physiology & nutrition basics 1	Van Metre
22-Jan	Thurs	11 - 11:50	2	GI physiology & nutrition basics 2	Van Metre
27-Jan	Tues	11 - 11:50	3	GI physiology & nutrition basics 3	Van Metre
29-Jan	Thurs	11 - 11:50	4	Protein, carbohydrate, and fat metabolism 1	Van Metre
3-Feb	Tues	11 - 11:50	5	Protein, carbohydrate, and fat metabolism 2	Van Metre
5-Feb	Thurs	11 - 11:50	6	Ketosis and ketoacidosis 1	Van Metre
10-Feb	Tues	11 - 11:50	7	Ketosis and ketoacidosis 2	Van Metre
12-Feb	Thurs	11 - 11:50	8	<b>Examination 1 in class (covers materials in lectures 1-7)</b>	Van Metre
				<b>Exam 1 is closed-note.</b>	
				<b>Section II: Endocrine Regulation of Metabolism</b>	
17-Feb	Tues	11 - 11:50	9	Electrolyte and H2O balance I (Read: Fluid Homeostasis Review)	Lunn
19-Feb	Thurs	11 - 11:50	10	Electrolyte and water balance II	Lunn
24-Feb	Tues	11 - 11:50	11	Insulin	Webb
26-Feb	Thurs	11 - 11:50	12	Anti-insulin	Webb
3-Mar	Tues	11 - 11:50	13	Glucocorticoids: Homeostasis and diseases	Dowers
5-Mar	Thurs	11 - 11:50	14	Thyroid Hormones: Homeostasis and diseases	Dowers
10-Mar	Tues	11 - 11:50	15	Mineral homeostasis and nutrition 1	Van Metre
12-Mar	Thurs	11 - 11:50	16	Mineral homeostasis and nutrition 2	Van Metre
17-Mar				Spring break	
19-Mar				Spring break	
24-Mar	Tues	11 - 11:50	17	Mineral homeostasis and nutrition 3	Van Metre
26-Mar	Thurs	11 - 11:50	18	Mineral homeostasis and nutrition 4	Van Metre
				<b>Examination 2 in Ram CT: Opens at 5 pm, Monday, March 30th</b>	
				<b>and covers materials in lectures 9-18. It is OPEN-NOTE.</b>	
				<b>Examination 2 closes at 5 pm, Thursday, April 2nd.</b>	
31-Mar	Tues			No nutrition class	
2-Apr	Thurs			No nutrition class. <i>Exam 2 closes at 5 pm.</i>	
				<b>Section III: Nutrition and Clinical Medicine</b>	
7-Apr	Tues	11 - 11:50	19	Vitamin and trace mineral nutrition 1	Van Metre
9-Apr	Thurs	11 - 11:50	20	Vitamin and trace mineral nutrition 2	Van Metre
14-Apr	Tues	11 - 11:50	21	Nutritional needs for renal and liver diseases	Lappin
16-Apr	Thurs	11 - 11:50	22	Introduction to parenteral nutrition	Hackett
21-Apr	Tues	11 - 11:50	23	Nutritional management of skin diseases	Zabel
23-Apr	Thurs	11 - 11:50	24	Small mammal nutrition	T. Campbell
27-Apr	Mon	8 - 8:50	25	Introduction to pet foods	Hammond

28-Apr	Tues	8 - 8:50	26	How to interpret pet food labels	Hammond
		9 - 9:50	27	Evaluating pet foods laboratory-Group 1	Hammond
		10 - 10:50	27	Evaluating pet foods laboratory-Group 2	Hammond
		11 - 11:50	27	Evaluating pet foods laboratory-Group 3	Hammond
30-Apr	Thurs	10 - 10:50	28	Feeding dogs	Hammond
		11 - 11:50	29	Feeding cats	Hammond
		3 - 3:50	30	Managing obese pets	Hammond
				<b>Examination 3 in RamCT opens at 5 pm on Monday, May 4th.</b>	
				<b>and covers materials in lectures 19-32. It is OPEN-NOTE.</b>	
				<b>Examination 3 closes at 5 pm on Thursday, May 7th.</b>	

**DATE****TOPIC*****Week 1***

Monday, Jan. 19  
 Tuesday, Jan. 20  
 Wednesday, Jan. 21

No Class – Holiday  
 Introduction: Biology of Infectious Agents  
 Bacterial Structure & Function

***Week 2***

Monday, Jan. 26  
 Tuesday, Jan. 27  
 Wednesday, Jan. 28

Antimicrobial Susceptibility & Resistance  
 Antimicrobials  
*Streptococcus* and related cocci

***Week 3***

Monday, Feb. 2  
 Tuesday, Feb. 3  
 Wednesday, Feb. 4

*Staphylococcus*  
*Staphylococcus, Rhodococcus*  
*Corynebacterium, Arcanobacterium*

***Week 4***

Monday, Feb. 9  
 Tuesday, Feb. 10  
 Wednesday, Feb. 11  
**Friday, Feb. 13**

*Listeria, Erysipelothrix*  
*Mycobacterium*  
*Mycobacterium, Actinomycetes*  
**Lab 1**

***Week 5***

Monday, Feb. 16  
 Tuesday, Feb. 17  
 Wednesday, Feb. 18

*Bacillus*  
*Clostridium*  
*Clostridium*

***Week 6***

Monday, Feb. 23  
 Tuesday, Feb. 24  
 Wednesday, Feb. 25

Anaerobes  
**Exam 1**  
 Disinfectants

***Week 7***

Monday, Mar. 2  
 Tuesday, Mar. 3  
 Wednesday, Mar. 4

Enterobacteriaceae, *E. coli*  
*E. coli, Klebsiella, Proteus*  
*Salmonella, Endotoxin*

***Week 8***

Monday, Mar. 9  
 Tuesday, Mar. 10  
 Wednesday, Mar. 11

Enteric flora, *Yersinia*  
*Pseudomonas, Burkholderia, Aeromonas, Bordetella*  
*Mannheimia, Pasteurella, Actinobacillus*

**Mar. 16 - 20****SPRING BREAK!**

**Week 9**

Monday, Mar. 23  
 Tuesday, Mar. 24  
 Wednesday, Mar. 25  
**Friday, Mar. 27**

*Haemophilis*, Respiratory microbial problems  
*Brucella*  
*Brucella*, *Taylorella*  
**Lab 2**

**Week 10**

Monday, Mar. 30  
 Tuesday, Mar. 31  
 Wednesday, Apr. 1

*Francisella*, *Moraxella*  
*Campylobacter*  
*Leptospira*

**Week 11**

Monday, Apr. 6  
 Tuesday, Apr. 7  
 Wednesday, Apr. 8

*Brachyspira*, *Borrelia*  
**Exam 2**  
*Helicobacter*, *Bartonella*

**Week 12**

Monday, Apr. 13  
 Tuesday, Apr. 14  
 Wednesday, Apr. 15

*Mycoplasma* (*Haemobartonella*, *Eperythrozoon*)  
*Rickettsia*, *Anaplasma*  
*Ehrlichia*, *Coxiella*

**Week 13**

Monday, Apr. 20  
 Tuesday, Apr. 21  
 Wednesday, Apr. 22

*Chlamydia* & *Chlamydophila*  
 Fungal Structure & Function, Yeast  
 Dermatophytes

**Week 14**

Monday, Apr. 27  
 Tuesday, Apr. 28  
 Wednesday, Apr. 29  
**Friday, May 1**

Dimorphic Fungi  
 Dimorphic Fungi  
 Miscellaneous Fungi  
**Lab 3**

**Week 15**

Monday, May 4  
 Tuesday, May 5  
 Wednesday, May 6

*Pneumocystis*, Mycotoxins  
 Antifungal Drugs  
 Fungal-like agents: *Prototheca*, *Pythium*,  
*Rhinosporidium*

**May 11 – 15 FINALS WEEK**

**Exam 3/Comprehensive Exam**  
**Monday May 11<sup>th</sup> 1:30PM – 3:30PM**

**VM639 VETERINARY VIROLOGY AND PARASITOLOGY  
SPRING LECTURE SCHEDULE 2009**

<u>DATE</u>	<u>TOPIC</u>	<u>INSTRUCTOR</u>
<b>Week 1</b>		
Mon, Jan 19	<b>University Holiday</b>	
Wed, Jan 21	Introduction, Ticks	Ballweber
Thur, Jan 22	Ticks/Mites	Ballweber/Baeten
<b>Week 2</b>		
Mon, Jan 26	Mites/Lice/Fleas	Ballweber
Wed, Jan 28	Fleas/Myiasis	Ballweber
Thur, Jan 29	Myiasis/Other Dipterans	Ballweber
<b>Week 3</b>		
Feb 2 – 5, Quiz	<b>Parasitology Quiz 1/Homework [50</b>	
Feb 2 – 9, Homework	<b>points]</b>	
Mon, Feb 2	Coccidians	Ballweber
Wed, Feb 4	Coccidians	Ballweber
Thur, Feb 5	Coccidians/Flagellates	Ballweber
<b>Week 4</b>		
Feb 9 – 12, Quiz	<b>Parasitology Quiz 2/Homework [50</b>	
Feb 9 – 15, Homework	<b>points]</b>	
Mon, Feb 9	Flagellates	Ballweber
Wed, Feb 11	Hemoprotozoans	Ballweber
Thur, Feb 12	Cestodes	Ballweber
<b>Week 5</b>		
Mon, Feb 16	<b>Parasitology Exam 1 [100 points]</b>	<b>Ballweber</b>
Wed, Feb 18	Cestodes/Trematodes	Ballweber
Thur, Feb 19	Trematodes/Ruminant Strongyles	Ballweber
<b>Week 6</b>		
Feb 23 – 26, Quiz	<b>Parasitology Quiz 3/Homework [50</b>	
Feb 23 – Mar 2, Homework	<b>points]</b>	
Mon, Feb 23	Ruminant & Equine Strongyles	Ballweber
Wed, Feb 25	Anthelmintic Resistance / Lungworms	Ballweber
Thur, Feb 26	Ascarids	Ballweber
<b>Week 7</b>		
Mon, Mar 2	Hookworms	Ballweber
Wed, Mar 4	<i>Dirofilaria</i> & other Spirurids	Ballweber
Thur, Mar 5	Oxyurids/ <i>Strongyloides</i>	Ballweber

<b>Week 8</b>		
Mon, Mar 9	Trichurids/ <i>Trichinella</i>	Ballweber
Wed, Mar 11	Parasitology Exam 2 [100 points]	Ballweber
Thur, Mar 12	Introduction to Virology, Viral Structure and Replication	Akkina
Mar 16 – 20	<b>Spring Break</b>	
<b>Week 9</b>		
Mon, Mar 23	Viral Pathogenesis	Akkina
Wed, Mar 25	Adenovirus/Circovirus	Van Campen
Thur, Mar 26	Parvovirus	Van Campen
<b>Week 10</b>		
Mon, Mar 30	Orthomyxovirus	Akkina
Wed, Apr 1	Paramyxovirus	Akkina
Thur, Apr 2	Togavirus	Akkina
<b>Week 11</b>		
Mon, Apr 6	Flavivirus	Akkina
Wed, Apr 8	Retrovirus	Akkina
Thur, Apr 9	Rhabdovirus	Akkina
<b>Week 12</b>		
Mon, Apr 13	Virology Exam 3 [150 points]	Akkina Van Campen
Wed, Apr 15	Pox/Papovaviruses	Akkina
Thur, Apr 16	Viral Vaccines	Akkina
<b>Week 13</b>		
Mon, Apr 20	Prions/TSEs	Akkina
Wed, Apr 22	Interferons and Antivirals	Akkina
Thur, Apr 23	Picorna/Calici/Vesiculoviruses	Akkina
<b>Week 14</b>		
Mon, Apr 27	Herpesviruses	VanCampen
Wed, Apr 29	Coronavirus	Van Campen
Thur, Apr 30	Reovirus	Van Campen
<b>Week 15</b>		
Mon, May 4	Diagnosis of Viral Diseases	Van Campen
Wed, May 6	Bunya/Arena/Birnaviruses	Van Campen
Thur, May 7	Filo/Borna/Arteriviruses	Van Campen
Week of May 11th	Virology Exam 4 [200 points]	Akkina & Van Campen

Note: order of topics may change at the discretion of the instructor(s)

## VM 640 Biology of Disease I Schedule, 2009

<u>Day/Date</u>	<u>Topic</u>	<u>Instructor</u>
T 1/20 Week 1	Introduction to Pathology	Mason
W 1/21	Introduction to Pathology	Mason
<b>Molecular and Genetic Basis of Disease</b>		
Th 1/22	Introduction to Biotechnology	Bowen
F 1/23	Introduction to Laboratory	Mason
M 1/26 Week 2	Recombinant DNA Technology	Bowen
T 1/27	Recombinant DNA Technology	Bowen
W 1/28	Applications of Biotechnology	Bowen
Th 1/29	Applications of Biotechnology	Bowen
F 1/30	OPEN	
M 2/2 Week 3	Introduction to Genetic Disease	Bowen
T 2/3	Cytogenetics and Chromosomal Disorders	Bowen
W 2/4	Mendelian Disorders	Bowen
Th 2/5	Mendelian Disorders	Bowen
F 2/6	Molecular Diagnostics Lab	Bowen
M 2/9 Week 4	Polygenic and Multifactorial Disorders	Bowen
<b>Cell Injury, Degeneration and Death</b>		
T 2/10	Central Theory of Cell Injury	Mason
W 2/11	Reversible Cell Injury	Mason
Th 2/12	Irreversible Cell Injury	Mason
F 2/13	OPEN	Mason
M 2/16 Week 5	Necrosis and Apoptosis	Mason
T 2/17	Pigments	Mason
W 2/18	Mineralization	Mason
<b>Disturbances of Circulation</b>		
Th 2/19	Hemostasis	Mason
F 2/20	Cell Injury Lab	Mason
M 2/23 Week 6	Hemorrhage, Congestion and Edema	Mason
T 2/24	Thrombosis and Embolism	Mason
<b>Inflammation, Healing and Repair, Immunopathology</b>		
W 2/25	Introduction to Inflammation	Mason
Th 2/26	<b>Exam 1: Material through 2/20</b>	Mason and Bowen
F 2/27	Disturbances of Circulation Lab	Mason
M 3/2 Week 7	Patterns of Inflammation	Mason
T 3/3	Inflammatory Mediators	Mason
W 3/4	Inflammatory Mediators	Mason
Th 3/5	Phagocytosis and Microbial Killing	Mason
F 3/6	Inflammation Lab	Mason
M 3/9 Week 8	Chronic Inflammation	Mason
T 3/10	Healing and Repair	Mason
W 3/11	Type 1&2 Hypersensitivity Reactions	Mason
Th 3/12	Type 3&4 Hypersensitivity Reactions	Mason
F 3/13	Inflammation Lab	Mason
<b>3/16-3/20</b>	<b>SPRING BREAK</b>	

M 3/23	Week 9	Autoimmune Disease	Mason
T 3/24		Autoimmune Disease	Mason
W 3/25		Pathogen:Host Interactions	Mason
Th 3/26		Sepsis and Septic Shock	Mason
F 3/27		Spontaneous Disease Lab	Mason

### Disorders of Growth

M 3/30	Week 10	Non-Neoplastic Disorders/Developmental	Ehrhart
T 3/31		Non-Neoplastic Disorders/Acquired	Ehrhart
W 4/1		Nature of Neoplasia	Ehrhart
Th 4/2		<b>Exam 2: Material through 3/26</b>	Mason
F 4/3		<b>VTH OPEN HOUSE - No Lab</b>	

M 4/6	Week 11	Pathogenesis of Neoplasia	Ehrhart
T 4/7		Pathogenesis of Neoplasia	Ehrhart
W 4/8		Classification of Neoplasia	Ehrhart
Th 4/9		Classification of Neoplasia	Ehrhart
F 4/10		Non-Neoplastic Growth Disorders Lab	Ehrhart

M 4/13	Week 12	Characteristics of Neoplasia	Ehrhart
T 4/14		Characteristics of Neoplasia	Ehrhart
W 4/15		Growth of Neoplasms	Ehrhart
Th 4/16		Growth of Neoplasms	Ehrhart
F 4/17		Neoplasia Laboratory	Ehrhart

M 4/20	Week 13	Host/Neoplasm Interactions	Ehrhart
T 4/21		Neoplasms: Grading, Staging and Therapy	Ehrhart
W 4/22		Etiology of Neoplasia	Ehrhart
Th 4/23		Etiology of Neoplasia	Ehrhart
F 4/24		Spontaneous Disease Lab	Mason

M 4/27	Week 14	Morphologic Diagnosis	Mason
T 4/28		Morphologic Diagnosis	Mason
W 4/29		Morphologic Diagnosis	Mason
Th 4/30		<b>Exam 3: Material through 4/23</b>	
F 5/1		Spontaneous Disease Lab	Mason

M 5/4	Week 15	Morphologic Diagnosis	Mason
T 5/5		Case Presentations	Mason
W 5/6		Case Presentations	Mason
Th 5/7		Case Presentations	Mason
F 5/8		OPEN	

**Final: Date & Time to be Announced**

**Spring 2009 VM 648 FOOD ANIMAL PRODUCTION AND FOOD SAFETY**

Class Schedule                      Thursdays 8:00 to 9:50 AM (Field Trips on Fridays 12:30 – 5PM)

<u><b>Wk 1</b></u> <u>Jan 22</u>	Introduction, course overview Animal agriculture, Land Grant Universities, and higher education	Garry
<u><b>Wk 2</b></u> <u>Jan 29</u>	US and World animal agriculture Livestock vs human food production	Garry
<u><b>Wk 3</b></u> <u>Feb 5</u>	Beef cattle production	Garry
<u><b>Wk 4</b></u> <u>Feb 12</u>	Dairy and veal production	Garry
<u><b>Wk 5</b></u> <u>Feb 19</u>	Small ruminant production	VanMetre
<u><b>Wk 6</b></u> <u>Feb 26</u>	Poultry production	Pabilonia
<u><b>Wk 7</b></u> <u>Mar 5</u>	Livestock handling issues	Grandin
<u><b>Wk 8</b></u> <u>Mar 12</u>	Swine production	VanMetre
<b>March 16-20 Spring Break</b>		
<u><b>Wk 9</b></u> <u>Mar 27</u>	<u><b>This is Friday</b></u> Field trips	Garry
<u><b>Wk 10</b></u> <u>April 3</u>	<u><b>This is Friday</b></u> Field trips	Garry
<u><b>Wk 11</b></u> <u>April 9</u>	Milk harvest/slaughter	Garry
<u><b>Wk 12</b></u> <u>April 16</u>	Food product harvesting/processing	Garry
<u><b>Wk 13</b></u> <u>April 23</u>	Organic food production	Scanga
<u><b>Wk 14</b></u> <u>April 30</u>	Chemical and microbial food problems Feed additives and growth promotants	Garry
<u><b>Wk 15</b></u> <u>May 7</u>	Food safety testing Food quality and safety management	Garry

# Practice Management (VM712) 2009 COURSE SCHEDULE

**Coordinators:**

**Dr. Christine Hardy, Dr. Gary Burge**

**Guest Lecturers:**

**Gary Burge, DVM**

**Jim Wilson, VMC, JD**

**Ralph Switzer, JD, CPA**

**Christine Hardy, DVM, MBA, MPH**

**Sheila Grosdidier, RVT, MCP**

**Aine McCarthy, DVM, MBA**

**Richanne Lomkin, DVM**

**Rick Allen, Pharmacist**

The class will meet in **room B213** of the Veterinary Teaching Hospital 8am - Noon, weekdays for the first 3 weeks of the spring semester of 2009 for lectures and class discussions. Attendance at additional evening seminars / lunch presentations is encouraged but voluntary. The fourth week, attendance is *required* for the Associate Panels, Jurisprudence, BSE and Regulatory Medicine and Pharmacy classes.

**Course Requirements:** Students must attend class, obtain a passing grade on their final exam and have submitted the following homework assignments – Resume exercise, a negotiation exercise, and personal budget exercise. Students will be allowed two *excused* absences. The course is graded P/F; passing is 70% or above. Students achieving a final average between 65 and 69.9% will receive a “U” grade as outlined in the PVM scholastic standards policy. This course is not ranked.

*Exam:*

There will be one comprehensive take-home examination distributed on the last day of Practice Management class and will be due by 8:00 a.m. the following Monday morning. The exam will cover the most important concepts presented in class. Topics presented through homework assignments, group projects and evening seminars may also be included. **Turn exams into the designated box in the Animal Cancer Center Administrative office (ACC 209).** The final exam constitutes 25% of the final grade.

*Homework:*

There will be three homework assignments. All must be submitted for a student to receive a “Satisfactory (S)” for their homework grade. **All homework should be turned in to the designated box in the Animal Cancer Center administrative office (ACC 209);** due dates are noted on the course description.

- ◆ **Resume/CV** – Students will create a resume that will be critiqued by two fellow students, make changes to the draft based on the review and **submit 2 copies of the final draft, the grading rubric and the two reviewed drafts.** Resumes will be graded as satisfactory if submitted by the deadline. A resume evaluation rubric will be provided to students to help with the review of the resumes. One of the two copies will be forwarded to the clinic for the student’s Junior Practicum Practice Management Externship. A cover letter is **not** required with this assignment. The two copies of the final CV, rubric and 2 copies of the reviewed draft CV will account for 20% of the final grade.
- ◆ **Budget** – Students will use a series of spreadsheets to explore basic concepts of personal finance and develop a projected budget for their first year in practice. This Excel program will be made available via RamCT, and is converted to a web-based program available at [www.finsim.umn.edu](http://www.finsim.umn.edu) through support from Veterinary Pet Insurance (VPI). This assignment will be graded S/U. The budget is 20% of the final grade.
- ◆ **Contract Negotiation Exercise** – This assignment will comprise 35% of the grading system.

**Note: The Animal Cancer Center administrative office is open from 7:30am-5pm Mon-Friday.**

Week /Day/Date	Time	Speaker or Activity/Topics/Objectives
Week 1		
Tue / 1-20	8 – noon	<p><b>Course Introduction - Drs. Burge and Hardy</b>  <b>Overview of the Profession - Dr. Burge</b>  <b>Planning for a Successful Career in Veterinary Medicine</b>  <b>Personality and Temperament</b>  <b>Evolution of a Veterinary Practice</b></p> <p>Learning Objectives:            Understanding link between leadership skills and success            Understand differences in personality and temperament            Develop strategies to work with challenging individuals            Gain appreciation for diversity in the workplace            Recognize and learn to avoid important aspects of ‘group think’ and other organizational dysfunctions            Understand how a practice changes as it grows and matures</p>

<b>Wed / 1-21</b>	<b>8 – noon</b>	<p><b>Leadership &amp; Management Skills in Practice - Dr. Burge</b>  <b>Practice Owner vs. Employee Veterinarian</b>  <b>The Service Business</b></p> <p>Learning Objectives:  Distinguish the unique characteristics of great leadership from great management  Recognizing emotional intelligence as key driver to personal effectiveness  Appreciate and recognize different leadership styles for different situations  Form an opinion as to whether leadership can be learned or is inherent  Understanding how to use leadership skills to develop a high performing team</p>
<b>Thu / 1-22</b>	<b>8 – 10</b>  <b>10 – noon</b>	<p><b>Jurisprudence: Veterinarians and the Law– Dr. Switzer</b>  <b>Laws Regarding Animals</b>  <b>Veterinary Contracts (VCPR)</b></p> <p>Learning Objectives:  Describe the differences between morals, ethics and law.  List the major legal issues veterinary practitioners face.  Describe how to select a business attorney.  List the reasons for animal confinement laws.  Describe how veterinarians should handle treatment requests for abandoned animals.  Recognize when liens for veterinary services are created and terminated.</p> <p><b>Becoming an Effective Veterinarian - Dr. Burge</b></p> <p>Learning Objectives:  Understand how to develop trust and rapport with patients and clients</p>
<b>Fri / 1-23</b>	<b>8 - noon</b>	<p><b>Getting Client Compliance to Your Recommendations – Dr. Burge</b></p> <p>Learning Objectives:  Develop strategies to maximize client compliance with your recommendations  Understand the associate’s role and how to leverage that value in negotiation  Define excellent service and understand its constraints in practice</p>
<b>Week 2</b>		
<b>Mon / 1-26</b>	<b>8 - noon</b>	<p><b>Planning for Your Future - Dr. Burge</b></p> <p>Learning Objectives:  How to develop financial independence  Learning the road blocks to long-term financial success  Learning how to develop a long-term financial plan  How to retire debt and build net worth to meet personal goals</p>
<b>Tue / 1-27</b>	<b>8 – noon</b>	<p><b>What Employees are Looking For in New Hires – Dr. Wilson</b>  <b>Resumes and Cover-Letters - Dr. Wilson</b> (introduction of Kelly Madden from the Career Center)  <b>Long Distance Job Searches - Dr. Wilson</b>  <b>Interview Questions and Etiquette – Wilson</b></p> <p>Learning Objectives:  Understand the course syllabus and requirements  Learn the 12 ingredients of great employees and what’s not taught in vet school to fulfill them  Discover the multitude of ways that can and should be used to find great jobs  Developing a resume and cover letter that produces pride in the creator and an awareness of CSU’s resources for help  Resumes and cover letters lead to interviews but that means learning the 16-most asked questions, drafting good questions to ask employees, preparing for the interview, and making the use of sample templates to determine the job that best fits each person’s needs</p>
<b>Wed / 1-28</b>	<b>8 – noon</b>	<p><b>The Basics of Contract Law - Dr. Wilson</b>  <b>30 Ingredients of an Employment Contract</b></p> <p>Learning Objectives:  Review the most important elements of an enforceable contract</p>

		<p>Identify the 30 key issues in employment agreements          Understanding how to negotiate bad restrictive covenants and the enforceability of the good ones          Is production-based compensation good or bad for new and/or experienced associates?</p>
<b>Thu / 1-29</b>	<p><b>8 – noon</b></p> <p><b>5:30 – 8p</b></p>	<p><b>The Art of Negotiation - Dr. Wilson</b>  <b>Goals and Goal Setting</b>  <b>Medical and Legal Reasons for Good Medical Records</b></p> <p>Learning Objectives:          Understand strategies for effective negotiating and how to do so rationally and with success          Identifying personal values, mission, and goals and developing strategies for a successful career          Using a case example of a “PA State Board Complaint” medical record to illustrate what constitutes the importance of good records and their admissibility as court evidence; the effect and benefit of clear written &amp; oral consent forms, ways to minimize bulky records and how to use business and medical records to increase office efficiency</p> <p><b>Evening Mock Interviews (ACC118/120) - Dr. Wilson / Food graciously sponsored by Nestle Purina</b></p>
<b>Fri / 1-30</b> <b>BUDGETS AND FINAL RESUMES (2 copies) DUE</b>	<p><b>8 – noon</b></p> <p><b>Noon - 1</b></p>	<p><b>Personal Finance - Dr. Wilson</b>  <b>Saving Money From the Tax Man</b></p> <p>Learning Objectives:          Comparing five-year earnings options in different sectors of the veterinary job market          The importance of developing one’s personal budget using the UMN Personal Finance Simulator before searching or interviewing for that first job          Understanding debt management, the time:value of money, and investment terminology          Determining which works best for a good financial future? – paying down loans or saving for the future          Case example – the importance of filing s Schedule C tax return as a way to save money on taxes</p> <p><b>Lunch Presentation / Graciously sponsored by VPI – Aine McCarthy, DVM, MBA</b></p>
<b>Week 3</b>		
<b>Mon / 2-2</b>	<p><b>8 – 10</b></p> <p><b>10 – noon</b></p>	<p><b>Internship Match Process (VIRMP Veterinary Resident &amp; Intern Matching Prgm) – Dr. Hardy</b></p> <p>Learning Objectives:          Learn about the Internship Match Process          Leverage the experiences of others to determine if pursuit of an internship is for you</p> <p><b>Jursiprudence / Liability Issues – Dr. Switzer</b></p> <p>Learning Objectives:          Distinguish and explain the three major classifications of torts.          List the elements of negligence and professional negligence.          Describe the defenses to claims of negligence.          Given a case scenario, identify the legal issues depicted, and where appropriate, the resolution/prevention of those issues.</p>
<b>Tue / 2-3</b>	<b>8 - noon</b>	<p><b>Communications – Ms. Grosdidier</b>  <b>Value of Services and Marketing</b></p> <p>Learning Objectives:          Define and discuss challenges to communication in an organization          Discuss the management of conflict with coworkers, staff, and clients          Gain an appreciation for the value of services provided from the client’s perspective          Develop strategies for successful marketing including product, price, placement, and promotion</p>
<b>Wed / 2-4</b>	<b>8 - noon</b>	<p><b>Practice Development - Ms. Grosdidier</b></p> <p>Learning Objectives:          Examine and critique the necessary elements of a successful business plan          Create strategies for business success</p>

<b>Thu / 2-5</b>	<b>8 - noon</b>	<b>Personnel Management - Ms. Grosdidier</b>  Learning Objectives: Describe and discuss various methods of providing incentives and motivating a veterinary team Understand how to attract, hire, and retain great employees
<b>Fri / 2-6</b>  <b>CONTRACT NEGOTIATION EXERCISE DUE</b>	<b>8-8:20</b>	<b>Jurisprudence – Drs. Switzer</b> <b>Communication to Prevent Malpractice Claims – Dr. Karen Wernette, AVMA-PLIT</b> Describe how you can reduce your risk of a malpractice claim through good communication Understand the importance of liability insurance coverage
	<b>8:20-10:20</b>	<b>When a Legal Claim Arises – Dr. Switzer</b> Describe the steps to take when the threat of legal action is imminent. Describe methods to manage legal expenses. Describe alternative methods of dispute resolution.
	<b>10:30-11</b>	<b>Review - Drs. Burge and Hardy –</b>
	<b>11-12</b>	<b>IN CLASS FINAL EXAM</b>
<b>Week 4</b>		
<b>Mon – Thu 2-09 – 2-12</b>  <b>FINAL EXAM DUE MONDAY 8 am</b>	<b>8 - noon</b>	The class will be divided according to their specified interest. Groups will then rotate through the assigned classes and/or panel discussions. Topics include: Pharmacy / Bovine Spongiform Encephalopathy Lab / Associate Panels / Regulatory Medicine. Students are to attend the respective classes at their scheduled time. Please note that <i>everyone</i> must attend Friday the 13 <sup>th</sup> ! The ‘Group’ schedule will be distributed week 3.
<b>Fri / 2-13</b>	<b>8 - noon</b>	<b>Foreign Animal Diseases / Regulatory Medicine - Dr. Lomkin</b>

VM712 2009 SCHEDULE working copy LAST 17jun08 THIS

**Associate Forum - Dr. Burge and local veterinarians**

Learning Objectives:

Appreciate variation and similarities in the experiences of new graduates as presented in an open forum discussion

Leverage the experiences of others to create your own strategies for success

# VM 716 - Principles of Shelter Veterinary Medicine

**Spring 2009**

**Credits:** 1

**Prerequisite(s):** VM 714.

## **Course Description:**

As an emerging field in veterinary medicine, shelter medicine has a unique set of challenges and skills. While the number of animals euthanized in animal shelters remains high, more shelters are housing animals for longer periods of time creating difficulties in maintaining optimal shelter population health. Shelter veterinarians often work with animal control officers, public health departments, private practitioners and others to promote the health and well-being of the community. This one credit lecture course is designed to provide an overview of the complexities involved in shelter veterinary medicine and the critical role that veterinarians play in solving community animal issues, as well as prepare students for the shelter medicine rotations during the third and fourth year practicum.

**Course Coordinator:** Rebecca Ruch-Gallie, DVM, MS  
Department of Clinical Sciences  
Office: ACC135 (VTH)  
Office hour: Friday 2-3pm or by appointment  
Phone: 970-297-4002  
[rgallie@colostate.edu](mailto:rgallie@colostate.edu)

**Text(s):** Required: None

Recommended: Shelter Medicine by Lila Miller & Steve Zawastowski  
*Two (2) copies of text will be on library reserve (VTH)*

**Additional Class Material:** Class notes & external websites

## **Instructional Methodology:**

The class will meet as a single group one day a week for lectures. A combination of lecture and discussion is the teaching mode for this course; supplementary readings, computer activities, and guest speakers will also be included.

### **Course Objective(s):**

At the end of this 1 credit, elective course students will be able to:

- Recognize the role of animal shelters within a community in terms of:
  - Public health
  - Population control
  - Education
- Discuss the change in mission of US animal shelters over time including current trends
- Identify strategies for optimizing shelter population health
  - Infectious disease control
  - Behavioral medicine
  - Nutrition
  - Facility design
- Understand legal considerations associated with
  - Managing shelter animals
  - Euthanasia
  - Animal Abuse, Cruelty and Neglect
- Distinguish between methods of population control and name advantages and disadvantages of methods

### **Methods of Evaluation:**

Students will be evaluated on the basis of two-one hundred point computer based (RamCT) examinations and one- two hundred point take home assignment. This course will be graded pass/fail with 70% minimum required for a passing grade. Students with final averages between 65.0-69.9% will receive a 'U' grade in accordance with the PVM scholastic standards policy. Please see the CVMBS Scholastic Standards Policies for more details regarding course grades in the PVM curriculum.

(<http://www.cvmbs.colostate.edu/cvmbs/ScholasticStandardsPolicy.pdf>)

Exams will primarily cover material presented in lecture, but instructors may assign responsibility for reading material as well. Students are not allowed to work together on exams, share material, or otherwise communicate about the content of exams or answers that they have developed. Exams are not to be reproduced. Please see the CVMBS Code of Honor for responsibilities of students regarding conduct during examinations and reporting of violations (<http://www.cvmbs.colostate.edu/cvmbs/honorcode.pdf>)

**Exam #1- Opens 3/09/09 8am, Closes 3/10/09 10pm Sessions 1-7**

**Exam #2- Opens 5/11/09 8am, Closes 5/12/09 10pm Sessions 8-14**

Half the total course grade will come from a take home assignment due 4/28/2009. The assignment will be outlined in detail at the first class.

**Attendance:**

Classroom interaction is the primary method of delivering information for this course. Supplemental materials are provided to assist student's educational efforts, but are not intended to replace instruction received through lectures. As such, class attendance and interaction with instructors during lectures are considered an essential part of this class.

**Schedule:**

<b>Lecture</b>	<b>Date</b>	<b>Topic</b>	<b>Session leaders</b>
	01.20.09	No class- Annual ASV meeting (FL)	
1	01.27.09	Introduction: The History of US Animal Shelters and Evolution of Shelter Medicine	Ruch-Gallie
2	01.27.09	Pet populations in the US and Population Management	Ruch-Gallie
3	02.03.09	Facility Considerations	Ruch-Gallie/Spindel
4	02.10.09	Infectious Disease and Control	Spindel
5	02.17.09	Zoonotic Disease in Shelters	Lappin/Gingrich
6	02.24.09	Feeding Challenges	Cleland
7	03.03.09	Strategies for Reproductive Control	Weir
8	03.10.09	Managing the non-dog or cat	Johnston
9	03.24.09	The Question of Feral Cats	Ruch-Gallie
10	03.31.09	Behavioral Assessments	Gingrich
11	04.07.09	Euthanasia Issues, Legalities, and Methods	TBA
12	04.14.09	Animal Abuse, Cruelty and Neglect and Forensics	TBA
13	04.21.09	Rural and International Sheltering	Gingrich
14	04.28.09	Building a Community Network	TBA
15	05.05.09	The good, the bad, the ugly - a panel	Invited panelists

**VM 726**  
**Principles of Imaging Interpretation I**  
**Lecture Schedule: Spring 2009**

Time:           Monday                   11:00-11:50 a.m.  
                   Wednesday               11:00-11:50 a.m.

Room:           Pathology Building, Room 101

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<b>DATE</b>	<b>TOPICS</b>	<b>INSTRUCTORS</b>
	<b><u>DIGESTIVE SYSTEM</u></b>	
Jan. 21	Introduction and basic radiologic concepts	Dr. Gibbons
Jan. 26	Radiographic evaluation: teeth, pharynx, swallowing	Dr. Gibbons
Jan. 28	Positive contrast agents to evaluate the GI tract	Dr. Gibbons
Feb 2	Radiographic evaluation of esophagus and stomach	Dr. Gibbons
Feb 4	Ultrasound imaging: abdomen	Dr. Marolf
Feb 9	Ultrasound imaging: abdomen	Dr. Marolf
Feb 11	Radiographic evaluation small and large bowel	Dr. Gibbons
Feb 16	Radiographic evaluation of liver, spleen, peritoneal space	Dr. Gibbons
Feb 18	Case Discussions	Dr. Gibbons

***Examination No. 1: Digestive System and Abdominal Ultrasound***  
***RamCT Exam opens Monday, February 23rd at 5:00 p.m. and***  
***closes Wednesday, February 25th at 11:00 p.m.***

**RESPIRATORY SYSTEM**

Feb 23	Thorax: Principles of evaluation Radiology of the lung	Dr. Kraft
Feb 25	Radiology of the lung	Dr. Kraft
Mar 2	Radiology of the lung	Dr. Kraft
Mar 4	Radiology of small animal upper airway problems	Dr. Kraft

Mar 9	Small animal nasal cavity, sinuses	Dr. Kraft
Mar. 11	Large animal sinuses, upper airway	Dr. Valdes

**Mar. 14 - 22 SPRING BREAK**

Mar. 23	Imaging of the pleural space and mediastinum	Dr. Randall
Mar 25	Imaging of the pleural space and mediastinum	Dr. Randall
Mar 30	Imaging of the pleural space and mediastinum	Dr. Randall
Apr. 1	Imaging of thoracic wall and diaphragm.	Dr. Randall
Apr. 6	Thoracic cases – what’s your diagnosis?	Dr. Randall
Apr. 8	Optional review session	Dr. Randall

***Examination No. II: Respiratory System RamCT exam opens Wednesday, April 8<sup>th</sup> at 5:00 p.m. and closes Friday evening, April 10<sup>th</sup> at 11:00 p.m.***

**CARDIOVASCULAR SYSTEM**

Apr. 13	Normal and abnormal cardiovascular radiology	Dr. Marolf
Apr. 15	Normal and abnormal cardiovascular radiology	Dr. Marolf
Apr. 20	Radiology of congenital heart diseases	Dr. Marolf
Apr. 22	Radiology of congenital heart diseases	Dr. Marolf
Apr. 27	Radiology of acquired heart diseases	Dr. Marolf
Apr. 29	Radiology of acquired heart diseases	Dr. Marolf
May 4	Cardiac case discussion –what’s your diagnosis?	Dr. Marolf

***FINAL EXAMINATION: Examination No. III, Cardiovascular material and ALSO Comprehensive for entire course. WebCT exam opens Wednesday, May 6<sup>th</sup> 5 p.m. and closes Saturday May 9<sup>th</sup> 11 p.m.***

**VM731: Biology and Disease of Small Mammals**  
**2 Credit Hours**  
**Spring 2009**  
**Wednesday 4-6 pm; Junior Lecture Hall VTH**

**Course Coordinator:**

Dr. Matthew Johnston  
Office: A200  
msjohn@colostate.edu  
297-4218

**Instructors:**

Dr. Sue VandeWoude; Sue.Vandewoude@ColoState.EDU  
Dr. Elizabeth Magden; Elizabeth.Magden@ColoState.EDU  
Dr. Khursheed Mama; kmama@colostate.edu  
Dr. Terry Campbell; twc@colostate.edu  
Dr. Lon Kendall; lon.Kendall@colostate.edu

**Course Description:** Diagnosis and treatment of diseases of small mammals. The knowledge gained in this course will serve as a basic stepping stone for those students interested in practicing laboratory animal medicine or pet small mammal medicine.

**Course Objective:** Introduce students to pet and laboratory small mammal biology, husbandry, clinical techniques, and diseases as well as considerations in the anesthesia, surgery, and diagnostic tests for this unique group of mammals.

**Schedule:**

<b>Date</b>	<b>Topic</b>	<b>Instructor</b>
21-Jan	<i>Introduction; Biology, Husbandry, Clinical Techniques of Rabbits</i>	Johnston
28-Jan	<i>Diseases of Rabbits</i>	Johnston
4-Feb	<i>Rabbit and Rodent Dentistry and Surgery</i>	Johnston
11-Feb	<i>Introduction to Rodents, Biology and Husbandry of Rats</i>	VandeWoude
18-Feb	<i>Diseases of Rats</i>	VandeWoude
25-Feb	<i>Biology, Husbandry, and Diseases of Mice; Laboratory Animal Medicine</i>	VandeWoude
4-Mar	<i>Biology, Husbandry, and Diseases of Hamsters and Gerbils</i>	Magden
11-Mar	<i>Biology, Husbandry and Diseases of Laboratory Guinea Pigs</i>	VandeWoude
18-Mar	<b><i>Spring Break</i></b>	<b><i>Spring Break</i></b>
25-Mar	<i>Husbandry and Diseases of Pet Guinea Pigs</i>	Johnston
1-Apr	<i>Rabbit and Rodent Anesthesia and Analgesia</i>	Mama
8-Apr	<i>Biology, Husbandry, and Clinical Techniques of Ferrets</i>	Campbell
15-Apr	<i>Ferret Diseases</i>	Campbell
22-Apr	<i>Clinical Pathology and Radiology of Small Mammals</i>	Johnston
29-Apr	<i>Chinchillas, Hedgehogs, Prairie Dogs, and Sugar Gliders</i>	Campbell
6-May	<i>Introduction to Primate Medicine</i>	Kendall

**PRINCIPLES OF SURGERY (VM733)**  
**Spring 2009**  
**LECTURE SCHEDULE**

<b>DATE</b>	<b>SCHEDULE</b>	<b>TOPIC</b>	<b>INSTRUCTOR</b>
Tuesday, Jan. 20	<u>Recitation-1</u> 9 am to 12 pm	Introduction to course, aseptic technique & surgical conduct	Dr. Egger & Surgery Techs
Wed, Jan. 21	<u>Lect-1</u> , 8 am to 9 am	Asepsis, Antisepsis & Surgery	Dr. MacPhail
Friday, Jan. 23 lect 2	<u>Lect-2</u> , 8 am to 9 am	Surgical Instruments & Handling	Dr. MacPhail
Friday, Jan. 23 lect 3	<u>Lect-3</u> , 9 am to 10 am	Suture Patterns	Dr. MacPhail
Tuesday, Jan. 27	<u>Recitation-2</u> 9 am to 12 pm	Surgical Instruments & Handling	Surgery Techs
Wednesday, Jan. 28	<u>Lect-4</u> , 8 am to 9 am	Suture Materials	Dr. MacPhail
Friday, Jan 30	<u>Lect-5</u> , 8 am to 9 am	Suture Patterns	Dr. MacPhail
Friday, Jan 30	<u>Lect-6</u> , 9 am to 10 am	Principles of Tissue Healing	Dr. Hendrickson
Tuesday, Feb 3	<u>Recitation-3</u> 9 am to 12 pm	Suturing practice	Drs. MacPhail & Hendrickson
Wednesday, Feb 4	<u>Lect-7</u> , 8 am to 9 am	Principles of Tissue Healing	Dr. Hendrickson
Friday, Feb. 6	<u>Lect-8</u> , 8 am to 9 am	Principles of Wound Management	Dr. Hendrickson
Friday, Feb. 6	<u>Lect-9</u> , 9 am to 10 am	Fracture Classification & Biomechanics	Dr. Egger
Tuesday, Feb. 10	<u>Recitation-4</u> 9 am to 12 pm	Exercise on Wound Healing	Dr. Hendrickson
Wednesday, Feb. 11	<u>Lect-10</u> , 8 am to 9 am	Principles of Fracture Fixation: Bone Healing and Bone Grafts	Dr. Egger
Friday, Feb. 13	<u>Lect-11</u> , 8 am to 9 am	Principles of Fracture Fixation: Pins and Wires	Dr. Palmer
Friday, Feb. 13	<u>Lect-12</u> , 9 am to 10 am	Principles of Fracture Fixation: External Skeletal Fixators	Dr. Egger
Tuesday, Feb. 17	<u>Recitation-5</u> 9 am to 12 pm	Principles & Application of External Coaptation	Dr. Egger and Sean Brevard
<b>Tuesday, Feb. 17</b>	<b>First RamCT Exam Release</b>	<b>Lectures 1-12, Recitations 1-4. DUE Thu, Feb 19, 5:00 pm</b>	<b>Drs. Hendrickson &amp; MacPhail, Egger, &amp; Palmer</b>
Wednesday, Feb. 18	<u>Lect-13</u> , 8 am to 9 am	Principles of Fracture Fixation: Plates and Screws	Dr. Palmer
Friday, Feb. 20	<u>Lect-14</u> , 8 am to 9 am	Fracture Fixation Selection (Fracture Assessment Score)	Dr. Palmer
Friday, Feb. 20	<u>Lect-15</u> , 9 am to 10 am	Principles of Large Animal Fracture Management	Dr. Goodrich
Tuesday, Feb. 24	<u>Recitation-6</u> 9 am to 12 pm	Fracture Assessment & Fixation Selection in LA (exercise)	Dr. Goodrich
Wednesday, Feb. 25	<u>Lect-16</u> , 8 am to 9 am	Principles of Tendon Injury & Repair	Dr. Goodrich
Friday, Feb. 27	<u>Lect-17</u> , 8 am to 9 am	Principles of Joint Surgery	Dr. Goodrich

Friday, Feb. 27	<u>Lect-18</u> , 9 am to 10 am	LA Orthopedic Complications	Dr. Goodrich
Tuesday, Mar. 3	<u>Recitation-7</u> 9 am to 12 pm	Fracture Assessment & Fixation Selection in SA (exercise)	Dr. Palmer
Wednesday, Mar. 4	<u>Lect-19</u> , 8 am to 9 am	Musculoskeletal Rehabilitation	Dr. Haussler
Friday, Mar. 6	<u>Lect-20</u> , 8 am to 10 am	S.A. Orthopedic Complications	Dr. Egger
Friday, Mar. 6	<u>Lect-21</u> , 9 am to 10 am	General Principles of Abdominal Surgery	Dr. Hendrickson
Tuesday, Mar. 10	<u>Recitation-8</u> , 9 am to 12 pm	OPEN	
Wednesday, Mar. 11	<u>Lect-22</u> , 8 am to 9 am	Amputation	Dr. Ryan
Friday, March 13	<u>Lect-23</u> , 8 am to 9 am	General Principles of Abdominal Surgery	Dr. Hendrickson
Friday, March 13	<u>Lect-24</u> , 9 am to 10 am	General Principles of Abdominal Surgery	Dr. Hendrickson
<b>Friday, March 13</b>	<b>Release of RamCT final exam</b>	<b>Lectures 12-24, Recitations 5-8. DUE Wednesday, Mar. 25, at 5:00 pm Spring Break: Mar 16-20</b>	<b>Drs. Egger, Palmer, Ryan, Goodrich, Hendrickson</b>

**PRINCIPLES OF SURGERY (VM 733)  
Spring 2009  
LECTURE OBJECTIVES**

**#1 Asepsis, Antisepsis and surgery**

1. Describe the concept of asepsis and antisepsis.
2. Describe the basic principles of their utilization in surgery.
3. Relate the principles of asepsis to "surgical conduct" in the operating theater.

**#2 Surgical Instruments**

1. Be able to name common surgical instruments and their proper handling and use.

**#3 Suture Patterns**

1. Be able to identify common suture patterns.
2. Describe their characteristic advantages and disadvantages.
3. Apply their indications and contraindications to given case scenarios.

**#4 Suture Materials**

1. Describe the important general characteristics, advantages and disadvantages of suture materials.
2. Apply their indications and contraindications to given case scenarios

**#5 Suture Patterns and Materials**

1. Apply various suture patterns and materials indications and contraindications (advantages and disadvantages) to given case scenarios.

VM737 Principles of Anesthesia			Lectures: Monday 9:00 – 9:50 Pathology 101 Friday 1:10 – 2:00 Pathology 101
Recitation:	Tuesday	8:00 – 11:00	Clark 144
<i>Recitation 1:</i>	Jan 20	Wagner	Basic canine and equine anesthesia (video demonstrations)
Lecture 1:	Jan 23	Hellyer	Introduction
Lecture 2:	Jan 26	Wagner	Evaluation of the pre-anesthetic patient Patient preparation for anesthesia
<i>Recitation 2:</i>	Jan 27	Wagner	Case discussion: patient evaluation; Pre-anesthetic plan and SOAP
Lecture 3:	Jan 30	Hellyer	Anesthesia equipment, part I
Lecture 4:	Feb 2	Hellyer	Anesthesia equipment, part II
<i>Recitation 3:</i>	Feb 3	Hellyer/ Boscan	Anesthetic machines (1 <sup>st</sup> half of class) <b>Held at VTH (D107 A/B)</b>
Lecture 5:	Feb 6	Mama	Clinical Pharmacology of Drugs Used for Premedication
Lecture 6:	Feb 9	Mama	Clinical Pharmacology of Injectable Anesthetic Agent
<i>Recitation 4:</i>	Feb 10	Hellyer/ Boscan	Anesthetic machines (2 <sup>nd</sup> half of class) <b>Held at VTH (D107 A/B)</b>
<b>Anesthesia Machine Practical</b>			<b>Schedule with faculty: February 11<sup>th</sup> - May 8<sup>th</sup></b>
Lecture 7:	Feb 13	Mama	Clinical Pharmacology of Inhaled Anesthetic Agents I
Lecture 8:	Feb 16	Mama	Clinical Pharmacology of Inhaled Anesthetic Agents II
<i>Recitation 5:</i>	Feb 17	Mama	Injectable drug calculations/Inhaled anesthetic delivery
Lecture 9:	Feb 20	Mama	Balanced Anesthesia
Lecture 10:	Feb 23	Boscan	Anesthesia and the Respiratory System
<i>Recitation 6:</i>	Feb 24	Hellyer	<b>Midterm exam (material through Feb 20<sup>th</sup>)</b>
Lecture 11:	Feb 27	Boscan	Respiratory monitoring and support
Lecture 12:	March 2	Boscan	Anesthesia and the Cardiovascular System
<i>Recitation 7:</i>	March 3	Boscan	Blood gas evaluation (case discussion)
Lecture 13:	March 6	Boscan	Cardiovascular monitoring and support

Lecture 14:	March 9	Boscan	Support during anesthesia:(vital organs, padding, positioning & temp)
<i>Recitation 8:</i>	March 10	Boscan	Monitoring equipment ( <b>hands-on at VTH</b> ) <b>ACC 118/120</b>
Lecture 15:	March 13	Boscan	Support during anesthesia (fluids, electrolytes & recovery considerations)

**SPRING BREAK (March 14-22)**

Lecture 16:	March 23	Wagner	Species-specific considerations for general anesthesia (horses)
<i>Recitation 9:</i>	March 24	Boscan	Evaluation of monitored parameters and the anesthesia record
Lecture 17:	March 27	Wagner	Species-specific considerations for general anesthesia (ruminants, swine, camelids)
Lecture 18:	March 30	Mama	Species-specific considerations for general anesthesia (exotic species)
<i>Recitation 10:</i>	March 31	Wagner	Case discussion: integration of species, disease and drug selection

**April 3**

**VTH OPEN House**

Lecture 19:	April 6	Mama	Anesthetic considerations for renal and hepatic disease patients
<i>Recitation 11:</i>	April 7	Hellyer	<b>Midterm exam (material through March 31<sup>st</sup>)</b>
Lecture 20:	April 10	Wagner	Anesthetic considerations for pregnant patients, cesarean sections; neonatal or pediatric patients
Lecture 21	April 13	Mama	Local Anesthesia
<i>Recitation 12:</i>	April 14	Mama	Perineural and Regional Anesthetic Techniques <b>VTH (ACC 118/120)</b>
Lecture 22:	April 17	Boscan	Anesthetic considerations for neurological patients (spine or brain pathology)
Lecture 23:	April 20	Campbell	Chemical restraint and sedation for minor procedures

<i>Recitation 13:</i>	April 21	Boscan	Case management examples
Lecture 24:	April 24	Campbell	Anesthetic considerations for trauma patients
Lecture 25:	April 27	Campbell	Anesthetic considerations for cardiac patients
<i>Recitation 14:</i>	April 28	Hellyer	Pain assessment
Lecture 26:	May 1	Hellyer	Recognition of pain in animals
Lecture 27:	May 4	Hellyer	Management of pain in animals – acute or perioperative
<i>Recitation 15:</i>	May 5	Hellyer	Acute pain management cases
Lecture 28:	May 8	Wagner	Common misconceptions in the practice of anesthesia; causes and incidence of anesthetic-related morbidity/mortality

**Final exam** is cumulative and will cover the entire course material. The final exam will be given during Final's week (May 11-15).

## **COURSE OBJECTIVES FOR VM 737 – PRINCIPLES OF ANESTHESIA**

VM737 is an introduction to the principles of clinical anesthesia. Performing anesthesia requires applying knowledge of chemistry, physics, physiology, pharmacology, and equipment in a clinical setting. Anesthetists should strive to create an optimal anesthetic state for each individual patient after careful consideration of the patient's unique medical and surgical needs. Available anesthetic and support drugs, the anticipated effects of the drugs, the procedure to be performed on the patient, and the skill of the anesthetist all impact the management of individual cases. Improving patient comfort by minimizing acute postoperative pain is an important component of clinical anesthesia. It is our intent that this course serves as a foundation that supports and reinforces your knowledge of the basic sciences, and provides you with the opportunity to begin to get a feel for integrating those disciplines into making medical judgments.

VM737 is not intended to turn neophytes into practicing anesthetists. Our goal is to begin your anesthesia training by presenting a conceptual framework on which a knowledgeable practice of anesthesia will be based.

Material for testing purposes may come from lectures, recitations, lecture notes, and assigned readings. The anesthesia faculty expects each student to review pertinent topics in physiology, pharmacology, and anatomy.

## **EVALUATION AND GRADING**

**The anesthesia faculty expects all students to abide by the Code of Honor of the College of Veterinary Medicine and Biomedical Sciences.**

VM 795, Biology of Disease, Spring 2009

This is a one credit course consisting of a laboratory session every Thursday morning. Like junior and senior laboratories, attendance is required. (Excused absences are processed through the Dean's Office.)

One set of goals is to use specimens to practice:

1. identifying abnormalities,
2. using correct language to describe them,
3. formulating a morphologic diagnosis based on your observations and general knowledge. This is an opportunity to practice diagnostic skills as well as review knowledge.

A second set of goals is to practice making morphologic diagnoses and using laboratory services as a practicing veterinary would.

This is a pass/fail course without any class ranking. Instead of a comprehensive final that could be ranked there will be a weekly homework assignment. Homework assignments must show reasonable effort and understanding of the material, an unsatisfactory assignment must be repeated. Passing the course requires attendance and effort in laboratory and completion of the homework.

Course Coordinator: Dr. Schultheiss

Jan 22	Dr. Ehrhart
Jan 29	Dr. Schultheiss
Feb 5	Dr. Mason
Feb 12	Dr. Aboellial
Feb 19	Dr. Spraker
Feb 26	Dr. Kamstock
March 5	Dr. Ehrhart
March 19	Dr. Basaraba
March 26	Dr. Schultheiss
April 2	Dr. Spraker
April 9	Dr. Kamstock
April 16	Dr. Aboellial
April 23	Dr. Mason
April 30	Dr. Duncan
May 7	Dr. Schultheiss

# THERIOGENOLOGY VM744 Spring 2009

<u>Date</u>	<u>Instr</u>	<u>Lecture topic</u>	<u>Laboratory topic</u>
Tues: Jan 20	<i>Meyers Lund</i>		<b>1. Laboratory overview</b> <i>(location: Path 112)</i>
Wed: Jan 21	<i>Woods</i>	<b>1. Development of the Reproductive Tract</b> <ul style="list-style-type: none"><li>- Chromosomal sex</li><li>- Embryonic origin of reproductive tissues</li><li>- Factors responsible for phenotype</li></ul>	
Fri: Jan 23	<i>Graham</i>	<b>2. Reproductive Physiology of the Male</b> <ul style="list-style-type: none"><li>- Anatomy of the male reproductive tract</li><li>- Hypothalamus</li><li>- Pituitary</li><li>- Testis</li><li>- Production sites and target cells</li><li>- Feedback mechanisms</li></ul>	
Tues: Jan 27	<i>Graham</i>		<b>2. Gross anatomy: male</b> <ul style="list-style-type: none"><li>- Testis, tubular system and accessory sex glands</li><li>- Scrotum and external genitalia</li></ul> <i>(location: Anat 117)</i>
Wed: Jan 28	<i>Graham</i>	<b>3. Regulation of testicular function</b> <ul style="list-style-type: none"><li>- Hormones</li><li>- Seasonality</li><li>- Thermoregulation</li></ul>	
Fri: Jan 30	<i>Graham</i>	<b>4. Spermatogenesis</b>	
Tues: Feb 3	<i>Graham</i>		<b>3. Microanatomy: male</b> <ul style="list-style-type: none"><li>- Testis, tubular system and accessory sex glands</li><li>- Scrotum and external genitalia</li><li>- Leydig and Sertoli cells</li><li>- Blood-Testis barrier</li></ul> <i>(location: Path 112)</i>
Wed: Feb 4	<i>Graham</i>	<b>5. Characteristics of Semen</b> <ul style="list-style-type: none"><li>- Sperm structure</li><li>- Maturation and longevity</li><li>- Storage sites</li><li>- Seminal plasma</li></ul>	

<b>Fri: Feb 6</b>	<i>Graham</i>	<b>6. Semen Collection and Analysis</b> - Techniques of collection - Motility analysis (visual and CASA) - Morphology stains - Concentration measurements - Flow cytometry	
<b>Tues: Feb 10</b>	<i>Graham</i>	(maybe have dog/cat collection and evaluation labs)	<b>4. Semen Evaluation</b> - dog semen collection (location: Path 112)
<b>Wed: Feb 11</b>	<i>Woods</i>	<b>7. Breeding Soundness Evaluation of the Male</b>	
<b>Fri: Feb 13</b>	<i>Woods</i>	<b>8. Reproductive Pathology of the Male</b> - Prostatic disease - Pathophysiology of spermatogenesis - Cryptorchidism - Hypogonadism - Orchitis - Tumors	

**Tues:  
Feb 17** *Graham*

**EXAMINATION # 1**  
(location: Path 112)

<b>Wed: Feb 18</b>	<i>Woods</i>	<b>9. Reproductive Endocrinology of the Female</b> - Hypothalamic hormones - Pituitary hormones - Ovarian hormones - Feedback mechanisms	
<b>Fri: Feb 20</b>	<i>Woods</i>	<b>10. Reproductive Cycles, Ovarian Function and Sexual Behavior</b> - Follicle development - Ovulation - Corpus luteum formation - Luteolysis - Sexual Dimorphism - Hormones and Behavior - Pheromones	
<b>Tues: Feb 24</b>	<i>Meyers Lund</i>		<b>5. Gross anatomy: Female</b> (location: Anat 117)
<b>Wed: Feb 25</b>	<i>Woods</i>	<b>11. Factors Affecting Reproduction</b> - Puberty - Seasonality/photoperiod - Reproductive senescence - Postpartum anestrus - Nutrition	

**Fri: Woods 12. The Estrous Cycle: Large Animal**

**Feb 27**

- Cattle
- Small ruminants
- Horses
- Llamas
- Pigs

**Tues: Meyers**

**Mar 3 Lund**

**6. Ruminant: Female lab**

- Microscopy
  - Gross tracts
  - Live animals
- (location: TBA-anat 117)

**Wed: Wheeler 13. Small Animal Reproduction**

**Mar 4**

- Estrous cycle of dogs and cats

**Fri: Woods/ 14. Breeding Management: (AI Horses)**

**Mar 6 Dinsmore**

- Artificial Insemination of Large Animals

**Tues: Meyers**

**Mar 10 Lund**

**7. Canine/Feline: Female lab**

- Microscopy
  - Gross tracts
  - Live animals
- (location :TBA-anat 117)

**Wed: Bowen 15. Contraception**

**Mar 11**

**Fri: Woods 16. Monitoring Reproductive Function in the Non-pregnant female**

**Mar 13**

- Diagnostic endocrinology
- Estrus detection
- Ultrasonography
- Palpation
- Radiography
- Culture, cytology and biopsy

**Mar 14-22**

**SPRING BREAK**

**Tues: Meyers**

**Mar 24 Lund**

**8. Equine: Female lab**

- Teasing
  - Ultrasonography
  - Cytology
  - Speculum Examination
- (location: ERL)

**Wed: Woods 17. Manipulation of Reproductive Function in the Non-pregnant female**

**Mar 25**

- Estrous synchronization
- Induction of folliculogenesis
- Induction of ovulation

- Termination of luteal activity
- Superovulation
- Suppression of ovarian activity

**Fri:**      *Woods*      **18. Female Reproductive Pathology**  
**Mar 27**  
- Developmental anomalies  
- Acquired anomalies

**Tues:**      *Meyers*  
**Mar 31**      *Lund*

**EXAMINATION # 2**  
*(LOCATION: PATH 112)*

**Wed:**      *Bowen*      **19. Physiology of Pregnancy I**  
**Apr 1**  
- gamete transport  
- fertilization  
- Preimplantation embryology and technology  
- Maternal recognition of pregnancy  
- Twinning, hybrids

**Fri:**      **VTH OPEN HOUSE: NO CLASSES**  
**Apr 3**

**Tues:**      *Bowen*      **9. Placental Structure**  
**Apr 7**      *(location: Anat 117)*

**Wed:**      *Bowen*      **20. Physiology of Pregnancy II**  
**Apr 8**  
- Placentation and placental function  
- Maternal physiology during pregnancy  
- Principals of pregnancy diagnosis  
- Fates of the abnormal conceptus

**Fri:**      *Bowen*      **21. Principles of Developmental Pathology**  
**Apr 10**  
- Incidence and significance  
- Causes of developmental disease  
- Factors involved in pathogenesis:  
    Critical periods, thresholds

**Tues:**      *Bowen*      **10. Reproductive Problems:**  
**Apr 14**      Approach to Diagnosis  
*(location: Path 112)*

**Wed:**      *Bowen*      **22. Teratology: Illustrative Examples**  
**Apr 15**

**Fri:**      *Woods*      **23. Parturition**  
**Apr 17**  
- Preparation for parturition  
- Initiation of parturition  
- Stages of labor  
- Induction of labor

**Tues:** *Mortimer*  
**Apr 21**

**Wed:** *Burns*  
**Apr 22**

**Fri:** *Mortimer*  
**Apr 24**

**24. Small Animal Obstetrics**

**25. Obstetrics/Dystocia**

- Normal delivery
- Causes of dystocia
- Obstetrical intervention and postpartum care

**Tues:** *Mortimer*  
**Apr 28**

**Wed:** *Garry*  
**Apr 29**

**Fri:** *Woods*  
**May 1**

**26. Neonatology**

**27. Assisted Reproduction Techniques**

- Embryo Transfer (ET)
- Gamete Intrafallopian Transfer (GIFT)
- Sexing sperm
- Intracytoplasmic Sperm Injection (ICSI)
- InVitro Fertilization (IVF)

**Tues:** *Dinsmore*  
**May 5**

**Wed:** *Dinsmore*  
**May 6**

**Fri:** *Dinsmore*  
**May 8**

**28. Lactation**

- Endocrine control
- Colostrum
- Lactation cycle
- Regression and involution
- Mastitis

**29. Mammary Gland**

- Development
- Anatomy
- Physiology

**11. Principles of Parturition**

*(location: VTH Food Animal Lab)*

**12. Obstetrics Lab**

*(location: VTH Food Animal Lab)*

**13. Mammary Gland**

*(location: Anat 117)*

**May**

**FINAL EXAMINATION**

**Time: TBA**

**(location: Path 101)**

*Revised: 12/15/2008 SLL*

**VM 745 Introduction to Clinical Sciences 1**  
**Spring 2009**  
**David C. Twedt DVM, Coordinator**

**Small Animal Endocrinology**

21-Jan	Wed	9:00-10:00	<b>Problem: Polyuria/Polydipsia</b>	Dowers
		10:00-11:00	<b>Problem: Weight Loss/Gain</b>	Dowers
		1:00-2:00	Endocrine pancreatic disorders	Dowers
22-Jan	Thurs	1:00-2:00	Endocrine pancreatic disorders	Dowers
		2:00-3:00	Adrenal disorders	Dowers
23-Jan	Fri	10:00-11:00	Adrenal disorders	Dowers
		11:00-12:00	Thyroid disorders	Dowers
26-Jan	Mon	10:00-11:00	Thyroid disorders	Dowers
		1:00-2:00	Parathyroid disorders	Dowers
		2:00-3:00	Endocrine Exam Review	Dowers

**Small Animal Gastroenterology**

28-Jan	Wed	9:00-10:00	<b>Problem: Dysphagia/Salivation</b>	Twedt
		10:00-11:00	<b>Problem: Regurgitation</b>	Twedt
		1:00-2:00	Esophageal disease	Twedt
29-Jan	Thurs	1:00-2:00	<b>Problem: Vomiting</b>	Twedt
		2:00-3:00	Gastric Disease	Twedt
30-Jan	Fri	10:00-11:00	<b>Problem: Diarrhea</b>	Twedt
		11:00-12:00	Acute and Viral Diarrhea	Twedt
2-Feb	Mon	10:00-11:00	GDV	Seim
		1:00-2:00	Intestinal Surgery	Seim
		2:00-3:00	Peritonitis	Seim
4-Feb	Wed	9:00-10:00	Dental Disease	Bar Am
		10:00-11:00	Dental Disease	Bar Am
		1:00-2:00	Dental Disease	Bar Am
5-Feb	Thurs	1:00-2:00	Chronic Diarrhea	Twedt
		2:00-3:00	Chronic Diarrhea	Twedt
6-Feb	Fri	10:00-11:00	<b>Problem: Abdominal Pain/Pancreatitis</b>	Twedt
		11:00-12:00	<b>Problem: Abdominal Distention/Ascites (HW due)</b>	Twedt
9-Feb	Mon	10:00-11:00	Gastrointestinal Parasites	Lappin
		1:00-2:00	Gastrointestinal Parasites	Lappin
		2:00-3:00	<b>Problem: Icterus</b>	Twedt
11-Feb	Wed	9:00-10:00	<b>Problem: Abnormal Liver Enzymes</b>	Twedt
		10:00-11:00	Liver Disease	Twedt
		1:00-2:00	Liver Disease	Twedt

12-Feb	Thurs	1:00-2:00	Liver Disease	Twedt
		2:00-3:00	Liver Disease	Twedt
13-Feb	Fri	10:00-11:00	Liver Disease	Twedt
13-Feb	Fri	11:00-12:00	<b>GI review</b>	Twedt
<b>Large Animal Gastroenterology</b>				
16-Feb	Mon	10:00-11:00	<b>Problem: Salivation/Oral disease in LA's</b>	Connally
		1:00-2:00	Oral diseases of Large Animals	Connally
		2:00-3:00	Infectious related myopath	Connally
18-Feb	Wed	9:00-10:00	<b>Problem: Flaccidity and Tetany in LA's</b>	Van Metre
		10:00-11:00	Rhabdomyolysis	Van Metre
		1:00-2:00	Infectious related myopathies	Davidson
19-Feb	Thurs	1:00-2:00	Esophageal disease in horses	Landolt
		2:00-3:00	Gastric Disease in horses	Landolt
20-Feb	Fri	10:00-11:00	<b>Problem: Abnormal Liver Enzymes in LA (Eq and F</b>	Landolt
		11:00-12:00	Liver/ Metabolic Disease in LA's	Landolt
23-Feb	Mon	10:00-11:00	Liver/ Metabolic Disease in LA's	Landolt
		1:00-2:00	Equine Endocrine Disorders	Landolt
		2:00-3:00	Equine Endocrine Disorders	Landolt
25-Feb	Wed	9:00-10:00	<b>Problem: Endotoxemia in LA's</b>	Landolt
		10:00-11:00	Endotoxemia and shock	Landolt
		1:00-2:00	<b>Problem: Resuscitation</b>	Callan
26-Feb	Thurs	1:00-2:00	Assessment Body Fluid, Electrolyte, & Metabolic Statu	Callan
		2:00-3:00	Assessment Body Fluid, Electrolyte, & Metabolic Statu	Callan
27-Feb	Fri	10:00-11:00	Fluid Therapy in Livestock	Callan
		11:00-12:00	Fluid Therapy in Livestock	Callan

2-Mar	Mon	10:00-11:00	Fluid Therapy Case Examples	Callan
		1:00-2:00	<b>Problem: Bloat in Camelids and Ruminants</b>	Gary
		2:00-3:00	Systemic disease	Gary
4-Mar	Wed	9:00-10:00	Ruminal disease	Gary
		10:00-11:00	Indigestion	Gary
		1:00-2:00	Abomasal disease	Gary
5-Mar	Thurs	1:00-2:00	Abomasal disease	Gary
		2:00-3:00	<b>Problem: Acute Abdominal Pain</b>	E. Hackett
6-Mar	Fri	10:00-11:00	Colic Assessment	E. Hackett
		11:00-12:00	Medical management of colic	E. Hackett
9-Mar	Mon	10:00-11:00	Surgical management of colic	E. Hackett
		1:00-2:00	<b>Pathophysiology of diarrhea (swine model)</b>	Van Metre
		2:00-3:00	Pathophysiology of diarrhea (swine model)	Van Metre
11-Mar	Wed	9:00-10:00	Juvenile Diarrhea in Large Animals	Van Metre
		10:00-11:00	Juvenile Diarrhea in Large Animals	Van Metre
		1:00-2:00	Juvenile Diarrhea in Large Animals	Van Metre
12-Mar	Thurs	1:00-2:00	Acute Diarrhea in Adult Ruminants	Van Metre
		2:00-3:00	Chronic Diarrhea in Adult Ruminants	Van Metre
13-Mar	Fri	10:00-11:00	Chronic weight loss and diarrhea in horses	Landolt
		11:00-12:00	Adult acute diarrhea in horses	Landolt
			<b>Spring Break</b>	

VM 747  
Clinical Sciences II  
Spring 2009

Date	Day	Time	Lecture	Instructor
3/23	Monday	10 am	Introduction/Cardiac Function	Orton
	Monday	1 pm	Cardiac Function	Orton
	Monday	2 pm	Heart Failure	Orton
3/25	Wednesday	9 am	Heart Failure-drugs	Orton
	Wednesday	10 am	Heart Failure-drugs	Orton
	Wednesday	1 pm	Cardiac Exam	Bright
3/26	Thursday	1 pm	Cardiac Exam	Bright
	Thursday	2 pm	Cardiac Exam	Bright
3/27	Friday	10 am	Electrocardiography	Orton
	Friday	11 am	Electrocardiography	Orton
3/30	Monday	10 am	Echocardiography	Orton
	Monday	1 pm	Echocardiography	Orton
	Monday	2 pm	Cardiac Arrhythmias	Orton
4/1	Wednesday	9 am	Cardiac Arrhythmias <b>Problem #1 due</b>	Orton
	Wednesday	10 am	Cardiac Arrhythmias	Orton
	Wednesday	1 pm	Cardiac Arrhythmias-treatment	Orton
4/2	Thursday	1 pm	Cardiac Arrhythmias-equine	Bright
	Thursday	2 pm	Discussion - Problem # 1	Orton/Bright
4/3	Friday	10 am	OPEN HOUSE	
	Friday	11 am	OPEN HOUSE	
4/6	Monday	10 am	Equine Cardiology-basics	Bright
	Monday	1 pm	Equine Valvular and Myocardial Disease	Bright
	Monday	2 pm	Feline Cardiology-basics	Bright
4/8	Wednesday	9 am	Feline Cardiomyopathies & Thromboembolism	Bright
	Wednesday	10 am	Systemic Hypertension	Bright
	Wednesday	1 pm	Pericardial Diseases	Bright
4/9	Thursday	1 pm	Canine Mitral Valve Disease	Orton
	Thursday	2 pm	Canine Cardiomyopathy	Orton
4/10	Friday	10 am	Congenital Shunts <b>Problem # 2 due</b>	Orton
	Friday	11 am	Congenital Valve Disease	Orton

4/13	Monday	10 am	Discussion – Problem #2	Orton
	Monday	1 pm	Cyanotic Heart Disease	Orton
	Monday	2 pm	Heartworm Disease	Orton
4/15	Wednesday	9 am	Pulmonary Hypertension	Orton
	Wednesday	10 am	Cardiac Toxicology	Knight
	Wednesday	1 pm	Ruminant Cardiac Diseases	Knight
4/16	Thursday	1 pm	Ruminant Cardiac Diseases	Knight
	Thursday	2 pm	Circulatory Shock	Campbell
4/17	Friday	10 am	Pulmonary Pathophysiology	Campbell
	Friday	11 am	Pulmonary Pathophysiology	Campbell
4/20	Monday	10 am	Pulmonary Failure-Supportive Therapies	Campbell
	Monday	1 pm	MIDTERM EXAM (Cardiac Disease)	
	Monday	2 pm	MIDTERM EXAM (Cardiac Disease)	
4/22	Wednesday	9 am	Respiratory Exam	Callan
	Wednesday	10 am	Respiratory Exam	Callan
	Wednesday	1 pm	Canine and Feline Nasal Disease	Hackett
4/23	Thursday	1 pm	Canine Laryngeal and Tracheal Disease	Hackett
	Thursday	2 pm	Feline Bronchial Disease	Hackett
4/24	Friday	10 am	Canine Bronchitis and Collapsing Airways	Hackett
	Friday	11 am	Pneumonia <b>Problem # 3 due</b>	Hackett
4/27	Monday	10 am	Discussion – Problem #3	Campbell/Callan/Hackett
	Monday	1 pm	Canine and Feline Pulmonary Edema	Hackett
	Monday	2 pm	Canine and Feline Pleural Space Disease	Hackett
4/29	Wednesday	9 am	Upper Respiratory Disease-Ruminants	Callan
	Wednesday	10 am	Upper Respiratory Disease-Ruminants	Callan
	Wednesday	1 pm	Bronchopneumonia-Ruminants	Callan
4/30	Thursday	1 pm	Bronchopneumonia-Ruminants	Callan
	Thursday	2 pm	Metastatic & Hypersensitivity Pneumonia	Callan
5/1	Friday	10 am	Interstitial & Parasitic Pneumonia	Callan
	Friday	11 am	Respiratory Diseases-Small Ruminants	Callan
5/4	Monday	10 am	Diseases of Thoracic Cavity-Ruminants	Callan
	Monday	1 pm	Equine Respiratory Diagnostic Tests	Traub-Dargatz
	Monday	2 pm	Equine Viral Respiratory Disease	Traub-Dargatz
5/6	Wednesday	9 am	Equine Viral Respiratory Disease	Traub-Dargatz
	Wednesday	10 am	Bacterial Pneumonia & Pleuropneumonia	Traub-Dargatz/Davidson
	Wednesday	1 pm	<i>Rhodococcus</i> and <i>Strep equi</i>	Traub-Dargatz/Davidson
5/7	Thursday	1 pm	Equine Upper Airway Infections	Davidson
	Thursday	2 pm	Treatment of Equine Respiratory Infections	Traub Dargatz/Davidson
5/8	Friday	10 am	Equine Airway Obstruction	Davidson
	Friday	11 am	Equine Epistaxis and Airway Inflammation	Davidson
5/11-15			FINAL EXAM (Respiratory Disease)	

# VM 757

## Herd Health for the Dairy, Beef, and Small Ruminant Industries

### A Production-Cycle Approach

<u>DATE</u>	<u>HOURS</u>	<u>SUBJECT AREA</u>	<u>INSTRUCTOR</u>
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#### ***Beef Industry***

22-Jan-09	1	INTRO TO COURSE	DINSMORE
		BEEF PRODUCTION CYCLE	MORTIMER
26-Jan-09	2	HEIFER DEVELOPMENT	WHITTIER MORTIMER
29-Jan-09	1	BEEF CATTLE NUTRITION	MORTIMER
02-Feb-09	2	BEEF CATTLE NUTRITION	MORTIMER
05-Feb-09	1	ESTRUS SYNCHRONIZATION	WHITTIER MORTIMER
09-Feb-09	2	CALVING AND NEONATE MANAGEMENT	MORTIMER
12-Feb-09	1	BEEF CATTLE REPRODUCTIVE PROBLE	MORTIMER
16-Feb-09	2	FEEDLOT VETERINARY PRACTICE	Dr. Breck Hunsaker MORTIMER
19-Feb-09	1	BEEF COMMODITY MARKETING	Dr. Keith Belk
23-Feb-09	2	TRACE MINERAL NUTRITION	ENGLE
26-Feb-09	1	MINERAL METABOLISM PROBLEM	VAN METRE
	16	TOTAL HOURS	

#### ***Dairy Industry***

02-Mar-09	2	DAIRY CYCLE/BRAINSTORM TOPICS	DINSMORE
05-Mar-09	1	INTRO TO DAIRY HERD RECORDS	DINSMORE
09-Mar-09	2	MONITORING DAIRY HERD PERFORMANCE	DINSMORE

12-Mar-09	1	MILKING EQUIPMENT AND MILK QUALITY	DINSMORE
16-Mar-09	<b>SPRING BREAK</b>		
19-Mar-09			
23-Mar-09			
27-Mar-09	1	INFECTIOUS DISEASE CONTROL PROGR	DINSMORE/GARRY
30-Mar-09	2	INFECTIOUS DISEASE CONTINUED	
02-Apr-09	1	CALFHOOD INFECTIOUS DISEASE: CAS	
06-Apr-09	2	CALVING MANAGEMENT: WORKER TRAINING	ROMAN
09-Apr-09	1	WORKER TRAINING	
13-Apr-09	2	DAIRY NUTRITION	DR. JERRY OLSON
15-Apr-09		<b>PAPER DUE!!</b>	
16-Apr-09	1	DAIRY COMMODITY MARKETING-- ORGANIC DAIRY PRODUCTION	DINSMORE
	18	TOTAL HOURS	
<b>Sheep and Goat Industries</b>			
20-Apr-09	2	Sheep Production Cycle and Vet Med	VAN METRE
23-Apr-09	1	Sheep Production Cycle and Vet Med	VAN METRE
27-Apr-09	2	Sheep Production Cycle and Vet Med	VAN METRE
30-Apr-09	1	Sheep Production Cycle and Vet Med	VAN METRE
4-May-09	2	Goat Herd Health and Milk Quality	VAN METRE
07-May-09	1	Abortion in Small Ruminants	VAN METRE
UPDATED:	1/14/09		
	9	TOTAL HOURS	
	43	GRAND TOTAL HOURS	

**VM 763 – Equine Medicine & Surgery  
Spring 2009 Syllabus**

**Course Coordinators:**

Course Co-coordinator (content):

**Dr. Dean Hendrickson**

- Office: A226
- Telephone: 297-0369
- email: dean.hendrickson@colostate.edu

Course Co-coordinator (RamCT):

**Dr. Regina Schoenfeld**

- Office: Physiology 105
- Telephone: 491-6008
- email: reginast@colostate.edu

**Course Meeting Times (all in B 213):** 1:10 – 2:00 PM Monday, Wednesday and Friday; AND 1:10 - 2:00 PM and 2:10 – 3:00 PM Thursday.

**Course Objective:**

This course will build on previous information presented in your Clinical Sciences courses, with an emphasis on diagnosis, management, surgical intervention and critical care concepts pertaining to equids.

**Recommended Textbooks:**

- Sellon and Long: *Equine Infectious Diseases* WB Saunders (Elsevier) 2007
- Auer and Stick: *Equine Surgery*, 3rd edition, 2005
- Samper et al: *Current Therapy in Equine Reproduction* (2007)
- McIlwraith and Robertson: *Equine Surgery Advanced Techniques*, 2<sup>nd</sup> edition, 1998
- Reed and Bayly: *Equine Internal Medicine*, 2<sup>nd</sup> edition, 2004
- Stashak's: *Adams Lameness in Horses*, 5<sup>th</sup> edition, 2002
- Orsini and Divers: *Manual of Equine Emergencies Treatment and Procedures*, 2<sup>nd</sup> edition, 2003

**Supplemental reading:**

- Blanchard et al.: *Manual of Equine Reproduction*, 2<sup>nd</sup> edition, 2003; Mosby, St Louis
- Colahan, Mayhew, Merritt, Moore: *Equine Medicine and Surgery*, Vol I and II, 5<sup>th</sup> edition, 1999
- Reef: *Equine Diagnostic Ultrasound*, 1998
- Slovis: *Atlas of Equine Endoscopy*, 1<sup>st</sup> edition, 2004
- Smith: *Large Animal Internal Medicine*, 3<sup>rd</sup> ed, 2002

**Student Evaluation**

Students will be evaluated using a combination of problem based/case work-up homework, quizzes, and exams. Each hour of lecture is worth 4 course points. Individual faculty members will determine the most appropriate way to evaluate students with regards to the topics presented. It is possible to use both methods, as long as the available points are distributed among the homework and exams. Exams will be RamCT based, and will open after the last lecture in the respective section is completed.

**Schedule (Topics, Instructors)**

<b>Date (2009)</b>	<b>Section</b>	<b>Title</b>	<b>Instructor</b>
Monday, Jan 19	MLK Day		
Wednesday, Jan 21	Advanced Neonatal Topics	Neonatal Conditions and critical care	Landolt
Thursday, Jan 22	Advanced Neonatal Topics	Neonatal Conditions and critical care	Landolt
Thursday, Jan 22	Advanced Neonatal Topics	Neonatal Conditions and critical care	Landolt
Friday, Jan 23	Advanced Neonatal Topics	Surgical management of neonatal problems (umbilical, urinary)	Hassel
Monday, Jan 26	Nutrition	What every veterinarian should know about equine nutrition and feeding	Hess
Wednesday, Jan 28	Nutrition	What every veterinarian should know about equine nutrition and feeding	Hess
Thursday, Jan 29	Nutrition	What every veterinarian should know about equine nutrition and feeding	Hess
Thursday, Jan 29	Digestive System	Advanced Dental Conditions	Connally
Friday, Jan 30	Digestive System	Advanced Dental Conditions	Connally
Monday, Feb 2	Digestive System	Treatment of the Field Colic	Connally
<b>Exam 1, February 2 – 5: RamCT 30 points (10 lectures x 3 points)</b>			
Wednesday, Feb 4	Details of Medical Care	Antimicrobial therapy and NSAID's	Goehring
Thursday, Feb 5	Details of Medical Care	Antimicrobial therapy and NSAID's	Goehring
Thursday, Feb 5	Details of Medical Care	Anthelmintics	Goehring
Friday, Feb 6	Digestive System	Medical Colic	Hassel
Monday, Feb 9	Digestive System	Fluid Therapy	Hassel
Wednesday, Feb 11	Digestive System	Critical Care	Hassel
Thursday, Feb 12	Digestive System	Surgery of the upper digestive system, jaw fractures, tongue lacerations, choke	Hassel
Thursday, Feb 12	Digestive System	Small intestinal strangulation and obstructions	Hassel
Friday, Feb 13	Digestive System	Large colon displacements and volvulus	Hassel
Mon, Feb 16	Digestive System	Management of problems associated with the small colon and rectum	Hassel
Wed, Feb 18	Digestive System	Treatment of the postoperative colic and complications	Hassel

Thur, Feb 19	Digestive System	Visceral Ultrasound	Werpy
<b>Exam 2, February 19-22: RamCT 36 points (12 lectures x 3 points)</b>			
Thur, Feb 19	Urogenital	Advanced reproductive and urinary surgery	Hendrickson
Fri, Feb 20	Urogenital	Advanced reproductive and urinary surgery	Hendrickson
Mon, Feb 23	Urogenital	Advanced reproductive and urinary surgery	Hendrickson
Wed, Feb 25	Urogenital	Reproductive problems: non-pregnant mare	McCue
Thur, Feb 26	Urogenital	Reproductive problems: non-pregnant mare	McCue
Thur, Feb 26	Urogenital	Reproductive problems: pregnant mare	McCue
Fri, Feb 27	Urogenital	Reproductive problems: parturient mare	McCue
Mon, Mar 2	Urogenital	Reproductive problems: stallions	McCue
Wed, Mar 4	Urogenital	Assisted reproduction and current topics in equine reproduction	McCue
Thur, Mar 5	Respiratory	Respiratory Surgery – ILLH, DDSP, Epiglottic entrapment, Paranasal sinuses	Hubert
Thur, Mar 5	Respiratory	Respiratory Surgery – ILLH, DDSP, Epiglottic entrapment, Paranasal sinuses	Hubert
Fri, Mar 6	Respiratory	Respiratory Surgery – Guttural pouch, miscellaneous conditions	Hubert
<b>Exam 3, March 6– 10: RamCT 36 points (12 lectures x 3 points)</b>			
Mon, Mar 9	Musculoskeletal	Selected peri-neural anesthesia for lameness diagnosis	Hubert
Wed, Mar 11	Musculoskeletal	Selected intra-articular anesthesia for lameness diagnosis	Hubert
Thur, Mar 12	Musculoskeletal	Conditions of the foot region – navicular	Hubert
Thur, Mar 12	Musculoskeletal	Conditions of the foot region - laminitis	Hubert
Fri, Mar 13	Musculoskeletal	Miscellaneous conditions of the foot region	Hubert
Mon, Mar 23	Musculoskeletal	Conditions of the pastern region	Frisbie
Wed, Mar 25	Musculoskeletal	Conditions of the pastern region	Frisbie
Thur, Mar 26	Musculoskeletal	Conditions of the upper forelimb	Frisbie
Thur, Mar 26	Musculoskeletal	Conditions of the fetlock region	Kawcak
Fri, Mar 27	Musculoskeletal	Conditions of the fetlock region	Kawcak
Mon, Mar 30	Musculoskeletal	Developmental orthopedic disease: ALD,	McIlwraith

		Flexural deformities and OCD	
Wed, April 1	Musculoskeletal	Developmental orthopedic disease: ALD, Flexural deformities and OCD	McIlwraith
Thur, April 2	Musculoskeletal	Treatment of Osteoarthritis	McIlwraith
Thur, April 2	Musculoskeletal	Treatment of Osteoarthritis	McIlwraith
Fri, April 3	<b>Open House</b>		
Mon, April 6	Musculoskeletal	Diagnosis and treatment of osteomyelitis and infections of synovial structures	McIlwraith
Wed, April 8	Musculoskeletal	Conditions of the carpus	Kawcak
<b>Exam 4, April 8 – 11: RamCT 48 points (16 lectures x 3 points)</b>			
Thur, April 9	Musculoskeletal	Radiology of the forelimbs – advanced	Park
Thur, April 9	Musculoskeletal	Radiology of the forelimbs – advanced	Park
Fri, April 10	Musculoskeletal	Clinical Indications and uses of Advanced Imaging: CT/MRI/Scintigraphy/Digital Radiography	Park
Mon, April 13	Musculoskeletal	Tendon therapies: Stem cell, bone marrow, ACell, Bapten, etc	Goodrich
Wed, April 15	Musculoskeletal	Ultrasonography of tendons and ligaments	Werpy
Thur, April 16	Musculoskeletal	Conditions of tendons and ligaments + case studies	Werpy/ Goodrich
Thur, April 16	Musculoskeletal	Conditions of tendons and ligaments + case studies	Goodrich/ Werpy
Fri, April 17	Musculoskeletal	Conditions of the metacarpal/metatarsal region including tendon/ligament injury	Kawcak
Mon, April 20	Musculoskeletal	Conditions of the hock	Hendrickson
Wed, April 22	Musculoskeletal	Conditions of the tibia and stifle	Hendrickson
Thur, April 23	Musculoskeletal	Radiology of the hindlimbs – advanced	Park
Thur, April 23	Musculoskeletal	Conditions of the upper rear limb and back	Kawcak
Fri, April 24	Musculoskeletal	Prepurchase Examination	Frisbie
<b>Exam 5, April 24-28: RamCT, 39 points (13 lectures x 3 points)</b>			
Mon, April 27	Dermatology	Focal or widespread areas of alopecia; photosensitization	Rosychuck
Wed, April 29	Dermatology	Pruritic and/or papular/urticarial dermatoses;	Rosychuck

		drug eruption	
Thur, April 30	Dermatology	Nodular dermatoses; scratches; pigmentary disorders; hyperelastosis cutis	Rosychuck
Thur, April 30	Dermatology	Continuation	Rosychuck
Fri, May 1	Ophthalmology	Equine Advanced Ophtho	Powell
Mon, May 4	Ophthalmology	Equine Advanced Ophtho	Powell
Wed, May 6	Neuromuscular	Equine neurology	Goehring
Thur, May 7	Neuromuscular	Equine neurology and neurosurgery	Goehring
Thur, May 7	Neuromuscular	Diseases of the Neuromuscular Unit	Goehring
Exam 6, May 7-11: RamCT, 27 points (9 lectures x 3 points)			
Fri, May 8	Examination	Final Exam Practical: Top ten tasks of new Vet	Hendrickson

**VM773 - SA Medicine & Surgery I - Spring 2009 Schedule (Topics, Instructors)**

DATE	DAY	SUBJECT	TOPIC	INSTRUCTOR
19-Jan-09	M, 2-3		Martin Luther King Day	No Class
20-Jan-09	Tu,1-2	Dentistry	Periodontal Disease (Basics)	BarAm
20-Jan-09	Tu,2-3	Dentistry	Periodontal Disease (Advanced Treatment)	BarAm
21-Jan-09	W, 2-3	Dentistry	Basic Oral Surgery	BarAm
21-Jan-09	W, 3-4	Dentistry	Feline Dentistry	BarAm
22-Jan-09	Th, 3-4	Gastrointestinal	Salivary Glands	MacPhail
23-Jan-09	F, 2-3	Gastrointestinal	Esophageal Surgery	MacPhail
23-Jan-09	F, 3-4	Gastrointestinal	Enteral Nutrition	MacPhail
26-Jan-09	M, 2-3	Gastrointestinal	Gastrointestinal surgery	MacPhail
27-Jan-09	Tu,1-2	Gastrointestinal	GI Infections	Lappin
27-Jan-09	Tu,2-3	Gastrointestinal	GI Infections	Lappin
28-Jan-09	W, 2-3	Gastrointestinal	Esophagus	Webb
28-Jan-09	W, 3-4	Gastrointestinal	Stomach	Webb
29-Jan-09	Th, 3-4	Gastrointestinal	"You Make Me Want To Vomit!"	Webb
30-Jan-09	F, 2-3	Gastrointestinal	Diarrhea	Webb
30-Jan-09	F, 3-4	Gastrointestinal	Diarrhea	Webb
02-Feb-09	M, 2-3	Gastrointestinal	Diarrhea	Webb
03-Feb-09	Tu,1-2	Gastrointestinal	Acute Liver Disease	Twedt
03-Feb-09	Tu,2-3	Gastrointestinal	Feline Liver Disease	Twedt
04-Feb-09	W, 2-3	Gastrointestinal	Chronic Hepatitis	Twedt
04-Feb-09	W, 3-4	Gastrointestinal	Hepatic Vascular Abnormalities	Twedt
05-Feb-09	Th, 3-4	Cardiology	Congestive heart failure	Bright
06-Feb-09	F, 2-3	Cardiology	Congestive heart failure	Bright
06-Feb-09	F, 3-4	Cardiology	Clinical pharmacology	Bright
09-Feb-09	M, 2-3	Cardiology	Feline myocardial disease	Bright
10-Feb-09	Tu,1-2	Cardiology	Feline myocardial disease	Bright
10-Feb-09	Tu,2-3	Cardiology	Feline Restrictive Cardiomyopathy	Bright
11-Feb-09	W, 2-3	Cardiology	Canine Mitral Valve Disease	Bright
11-Feb-09	W, 3-4	Cardiology	Canine Dilated Cardiomyopathy	Bright
12-Feb-09	Th, 3-4	Respiratory	Nasal disorders	Hackett
13-Feb-09	F, 2-3	Respiratory	Upper airway cases	Hackett
13-Feb-09	F, 3-4	Respiratory	Tracheobronchial cases	Hackett
16-Feb-09	M, 2-3	Respiratory	Tracheobronchial cases	Hackett

<b>DATE</b>	<b>DAY</b>	<b>SUBJECT</b>	<b>TOPIC</b>	<b>INSTRUCTOR</b>
17-Feb-09	Tu,1-2	Respiratory	Pulmonary parenchymal cases	Hackett
17-Feb-09	Tu,2-3	Respiratory	Pulmonary parenchymal cases	Hackett
18-Feb-09	W, 2-3	Respiratory	Pleural space cases	Hackett
18-Feb-09	W, 3-4	Respiratory	Pleural space cases	Hackett
19-Feb-09	Th, 3-4	Respiratory	Respiratory failure	Hackett
20-Feb-09	F, 2-3	Respiratory	Upper airway surgery	Monnet
20-Feb-09	F, 3-4	Respiratory	Tracheal surgery	Monnet
23-Feb-09	M, 2-3	Respiratory	Pulmonary surgery	Monnet
24-Feb-09	Tu,1-2	Soft tissue surgery	Perineal hernia	Monnet
24-Feb-09	Tu,2-3	Soft tissue surgery	Urolithiasis	Monnet
25-Feb-09	W, 2-3	Soft tissue surgery	Surgery of the ear	Monnet
25-Feb-09	W, 3-4	Soft tissue surgery	Diaphragmatic hernia	Monnet
26-Feb-09	Th, 3-4	Soft Tissue surgery	Reconstructive surgery	Monnet
27-Feb-09	F, 2-3	Soft tissue surgery	Laparoscopy	Monnet
27-Feb-09	F, 3-4	Oncology	Respiratory Neoplasia	Thamm
02-Mar-09	M, 2-3	Oncology	Urogenital Tumors	Biller
03-Mar-09	Tu, 1-2	Oncology	Hemangiosarcoma	Thamm
03-Mar-09	Tu,2-3	Oncology	Skin/Subcutaneous Tumors	Biller
04-Mar-09	W, 2-3	Oncology	Hematologic Abnormalities I	Biller
04-Mar-09	W, 3-4	Oncology	Hematologic Abnormalities II	Biller
05-Mar-09	Th, 3-4	Oncology	Oral and Intestinal Tumors	Worley
06-Mar-09	F, 2-3	Oncology	Soft tissue Sarcomas	Worley
06-Mar-09	F, 3-4	Oncology	Mast cell tumors	Thamm
09-Mar-09	M, 2-3	Oncology	Osteosarcoma	Ehrhart
10-Mar-09	Tu,1-2	Oncology	Perianal Tumors	Ehrhart

### **Attendance Policy**

Attendance is required! Please refer to PVM Attendance Policy on the CVMBS Web site. Students are responsible for mastering all course objectives even if granted an excused absence.

## VM774 Small Animal Medicine and Surgery II Spring 2009

### Course/Section Coordinators

Course and RamCT Coordinator: **Dr. Kristy Dowers**

- Office: B-215
- Telephone: 297-1243
- email: kdowers@colostate.edu

Section Coordinators:

- **Dr. Mike Lappin** (Immune/Infectious)
- **Dr. Cynthia Powell** (Ophthalmology)
- **Dr. Craig Webb** (Endocrinology)
- **Dr. Kristy Dowers** (Urinary)
- **Dr. Erick Egger** (Orthopedics)
- **Dr. Rod Rosychuk** (Dermatology)
- **Dr. Lisa Klopp** (Neurology)
- **Dr. Tim Hackett** (CCU)

Should you encounter any problems within a given section, please do not hesitate to contact the lecturer who is responsible for presenting the information, the section coordinator or Dr. Dowers.

### Lecture Schedule

Class meets daily at the following times:

- Monday: 2:00 – 2:50 pm
- Tuesday: 1:00 – 1:50 pm *and* 2:00 – 2:50 pm
- Wednesday: 2:00 – 2:50 pm *and* 3:00 – 3:50 pm
- Thursday: 3:00 – 3:50 pm
- Friday: 2:00 – 2:50 pm *and* 3:00 – 3:50 pm

Date	Time	Subject	Topic	Instructor
Tue (3/10)	1:00	VM773	Last Lecture for the Course	
	2:00	Infectious/Immune	Case studies	Lappin
Wed (3/11)	2:00	Infectious/Immune	Fungal disease	Lappin
	3:00	Infectious/Immune	Fungal disease	Lappin
Thu (3/12)	3:00	Infectious/Immune	Case studies	Lappin
Fri (3/13)	2:00	Infectious/Immune	Case studies	Lappin
	3:00	Infectious/Immune	Case studies	Lappin
<b>March 16 – 20</b>		<b>Spring Break</b>	<b>No class</b>	

VM774 Syllabus, Spring 2008

Mon (3/23)	2:00	Infectious/Immune	Advanced immune	Dow
Tue (3/24)	1:00	Infectious/Immune	Advanced immune	Dow
	2:00	Infectious/Immune	Advanced immune	Dow
Wed (3/25)	2:00	Ophthalmology	Emergency/Critical Care cases	Hackett
	3:00	Ophthalmology	Emergency/Critical Care cases	Hackett
Thu (3/26)	3:00	Ophthalmology	Emergency/Critical Care cases	Hackett
Fri (3/27)	2:00	Ophthalmology	Emergency/Critical Care cases	Hackett
	3:00	Ophthalmology	Emergency/Critical Care cases	Hackett
Mon (3/30)	2:00	Ophthalmology	Emergency/Critical Care cases	Hackett
Tue (3/31)	1:00	Urinary	Lower urinary cases	Dowers
	2:00	Urinary	Lower urinary cases	Lappin
Wed (4/1)	2:00	Urinary	Lower urinary cases	Lappin
	3:00	Urinary	Reproduction	Wheeler
Thu (4/2)	3:00	Urinary	Reproduction	Wheeler
<b>Fri (4/3)</b>		<b>Open House</b>	<b>No Class</b>	
Mon (4/6)	2:00	Urinary	Upper urinary cases	Lunn
Tue (4/7)	1:00	Urinary	Upper urinary cases	Lunn
	2:00	Urinary	Upper urinary cases	Lunn
Wed (4/8)	2:00	Endocrinology	Introduction, Hypoadrenocorticism	Webb
	3:00	Endocrinology	Hypothyroidism	Webb
Thu (4/9)	3:00	Endocrinology	Hyperthyroidism	Webb
Fri (4/10)	2:00	Endocrinology	Hyperadrenocorticism	Webb
	3:00	Endocrinology	Diabetes	Webb
Mon (4/13)	2:00	Endocrinology	Diabetes	Webb
Tue (4/14)	1:00	Endocrinology	Hypercalcemia, Hyperlipidemia	Webb
	2:00	Orthopedics	Pelvic/Scapular fractures	Palmer
Wed (4/15)	2:00	Orthopedics	Femur/Humerus fractures	Palmer
	3:00	Orthopedics	Carpus/Tarsus/Metabones/Phalanges	Palmer
Thu (4/16)	3:00	Orthopedics	Tibial/Radial fractures	Egger
Fri (4/17)	2:00	Orthopedics	Angular limb deformities	Egger
	3:00	Orthopedics	Mandibular/Maxillary fractures	Egger
Mon (4/20)	2:00	Critical Care	Retina – normal	Powell
Tue (4/21)	1:00	Critical Care	Retina – abnormal	Powell
	2:00	Critical Care	Sudden blindness	Powell
Wed (4/22)	2:00	Critical Care	Red eye	Gionfriddo
	3:00	Critical Care	Red eye	Gionfriddo
Thu (4/23)	3:00	Critical Care	Red eye	Gionfriddo
Fri (4/24)	2:00	Neurology	Neuropathic syndrome	Klopp
	3:00	Neurology	Neuropathic syndrome	Klopp

Mon (4/27)	2:00	Neurology	NM Junction syndrome	Cuddon
Tue (4/28)	1:00	Neurology	Myopathic syndrome	Cuddon
	2:00	Neurology	Myopathic syndrome	Cuddon
Wed (4/29)	2:00	Neurology	Multifocal syndrome	Klopp
	3:00	Neurology	Multifocal syndrome	Klopp
Thu (4/30)	3:00	Neurology	Cerebrospinal fluid	Cuddon
Fri (5/1)	2:00	Neurology	Tremor/Paroxysmal syndrome	Klopp
	3:00	Dermatology	The itchy dog	Rosychuk
Mon (5/4)	2:00	Dermatology	The itchy dog cont...	Rosychuk
Tue (5/5)	1:00	Dermatology	Focal inflammatory lesions	Rosychuk
	2:00	Dermatology	Facial dermatoses	Zabel
Wed (5/6)	2:00	Dermatology	Misc. dermatoses	Zabel
	3:00	Dermatology	Misc. dermatoses	Zabel
Thu (5/7)	3:00	Dermatology	Feline dermatology	Rosychuk
Fri (5/8)	2:00	Dermatology	Feline dermatology	Rosychuk
	3:00	Dermatology	Feline dermatology	Rosychuk
Tues (5/12)	All Day	Comprehensive	FINAL PRACTICAL EXAM	3 Sessions: 7:30-10:30 am 11:00-2:00 pm 2:30-5:30 pm

## Exams

All exams are **closed book/closed notes**.

### Section Exams

The exams for each section of the course will be available on RamCT for **3 days** starting on the day of the completion of the lectures for that section. The only exception is the last section of the course which will be open for the entire week of finals. See the schedule for open and close dates below. These dates are also listed in the Course Calendar. **RamCT exams close at 10:00 pm on the indicated date, unless otherwise specified in the Course Calendar.** Please start the exams at least 2 hours prior to the closing time. Remember that closing times reflect the RamCT server time, not the time on the computer lab wall clocks or your own personal watch.

The exams can be taken from any computer. If you use a personal computer at home, be sure it is set up correctly -- incorrect browser settings may result in unsaved answers. Please check the **Student RamCT Resources** on the course homepage for a "Browser Tune-up" prior to taking your first exam from a non-university computer. You can contact Dr. Dowers for any help with RamCT. Do not forget to save your answers, especially in those exams where questions are delivered one at a time. We will not retroactively award points for questions that were not saved.

# Colorado State University

## VM 780 Professional Writing for Veterinarians

**Primary Instructor:** Jack Lovelace, Clark C219

**E-mail:** [jack.lovelace@colostate.edu](mailto:jack.lovelace@colostate.edu); phone 491-7330

**Class Location:** A/ W118, Tuesdays 2:00 - 2:50 p.m.

**Office Hours:** Lovelace: M-W, 3-4 p.m.; Tu, Th, 1-2, also by appointment, just contact me and we will arrange it.

**Associate Teachers:** Raquel Harper, [rharper@lamar.colostate.edu](mailto:rharper@lamar.colostate.edu)

Amy Raitz, [areitz@lamar.colostate.edu](mailto:areitz@lamar.colostate.edu)

**Course Prerequisites:** Freshman standing in the PVM program

**Text:** No text, we will be utilizing a variety of sources on writing during lecture.

### **Course Description**

This course works from the premise that writing skills can aid you in your career as a veterinarian. You will be improving your writing skills for communicating with various audiences, such as colleagues, clients and regulatory authorities and the community, through a variety of assignments, supported in lecture, throughout the semester.

Credits: 1

### **Course Objectives:**

You will learn how to do the following:

1. Create documents so that they are clear, understandable, and “reader-friendly” for the intended audience.
2. Always consider packaging and visual design effectively.
3. Organize information using reader-based principles.
4. Use mechanically and grammatically correct language.
5. Adjust technical content to meet the needs of your specific audience.

## **Assignments:**

Final grades will be pass/fail (S/U). A minimum of 70 percent is required to pass the course (“S” grade). Students with a final average between 69.5 and 65.0 percent will receive an unsatisfactory grade (“U” grade) and will need to complete a make-up assignment in order to pass the course. Students with an average grade of 64.5 percent or lower will receive an F (fail) for the course and be subject to the academic dismissal policy. The course will not be ranked.

In addition to earning at least 70 percent, students must turn in all assignments to pass the class. A missing assignment also results in an unsatisfactory (“U”) grade.

*Specific details for each of the following assignments will be handed out and/or discussed in class.*

1. Lecture writing assignments: 70 points.
2. Scientific article summary assignment: 60 points
3. Discharge instructions: 20 points.
3. Final writing assignment: 150 points.
4. Final exam: 100 points.

## **Late Assignments:**

There are no late assignments. All deadlines are absolute. Only verified medical or sanctioned school activities warrant any delay consideration. Deadlines are important for professionals, and this course will work under that premise.

## **Plagiarism:**

You will automatically fail the course if you present as your own work writing produced by another person, whether that person is a published writer, business source, online source, family member, friend, or fellow student. Any evidence of plagiarism will also be reported immediately to the College of Veterinary Medicine and Biomedical Sciences and appropriate actions will be taken.

## **Course Calendar:**

**January 20:** Introduction. Syllabus, course outline and the case for a writing vet.

**January 27:** Good writing, part one; The basics. First try at “Get Smart.” You write.

**February 3:** Good writing, part two. Get Smart success. Your turn to write.

**February 10:** Sharing examples from Feb. 3 writing. Letters, memos and e-mails, Professional e-mail assignment made.

**February 17:** Sharing those e-mails. Reaching your client in word. Scientific article summary is assigned.

**February 24:** Contents of a Medical Record (SOAP)

Instructor: Mike Lappin, Clinical Sciences

Due: Scientific article summary due at the beginning of class.

**March 3:** Sharing the scientific summary articles. Visuals. Ethics, plagiarism, copyright.

**March 10:** Writing and the veterinarian: A panel from the front lines.

**March 17:** No class, spring break.

**March 24:** Delivering Bad News

Instructor: Lori Kogan, Clinical Sciences

**March 31:** Writing: A world of difference, vets collaborate, go international.

**April 7:** Writing: The web, the future. Your crystal ball in writing.

**April 14:** Breaking down your final writing assignment. Course review. Prep for final exam. Discharge instructions, your turn.

**April 21:** Legal importance of keeping medical records. Writing about science for the public.

Instructor: Michele Prud' Homme

**April 28:** Veterinary Practice Act, Malpractice

Instructor: State Board of Veterinary Medicine

**May 5:** Final exam covering content presented throughout the semester.

May 11: Major project deadline is noon.

# JUNIOR PRACTICUM 2008-2009

## VM 786A

### Welcome to the Junior Practicum

#### Coordinator: Dr. Cynthia Powell

The Junior Practicum is held from 8:00 am to 12 noon Monday through Friday during the Fall and Spring Semesters.

The first four weeks of the Spring Semester include **core** lectures in VM712 *Veterinary Practice Management* and *evening seminars* on timely topics of interest to the veterinary profession. Please check your schedules for time and location of these lectures.

Laboratory and Clinic Rotations in the Spring Semester run from week 5 to the week before finals (11 weeks total).

This manual is a collection of laboratory, recitation, and clinic rotation descriptions. These descriptions have been provided by rotation coordinators to give you an accurate idea of what your core experience will be so you can make a logical decision on what your electives should be. It is highly recommended that you read through the course descriptions carefully prior to completing your final Rotation Selection. You should refer to this document regularly during your Junior year in order to determine rotation schedules, equipment or clothing requirements, meeting locations, and time commitments.

# **CORE ROTATIONS FOR SPRING SEMESTER**

## **CLINICAL ANESTHESIA - (AN-1, AN-2) (CORE; FALL AND SPRING)**

**Coordinator:** Dr. Wagner

**Instructors:** Allweiler, Boscan, Wagner, Mama

**Location:** See handout prior to lab

**Objectives:** Understand advantages, disadvantages, and pharmacological action of the major anesthetic agents used in domestic animals. Gain experience performing physical examinations and preparing an anesthetic care plan (SOAP). Gain experience with technical skills such as IV catheterization and intubation. Learn how to induce and maintain anesthesia in domestic species. Be able to assess depth of anesthesia in patients under your care. Learn how to recognize and treat the primary cardiopulmonary problems that occur under anesthesia, including hypotension, arrhythmias, hypoventilation, and hypoxemia. Be able to use and discuss all the equipment available including anesthesia machines, breathing systems (circle and non-rebreathing), patient monitors, and accessories. Understand the function and application of these devices. Be able to determine if your patients are in pain, or likely to be painful, and create a plan to ensure they are comfortable in the perioperative period.

## **EMERGING & EXOTIC ANIMAL DISEASES (EED) (CORE; FALL AND SPRING)**

**Course Coordinator:** Dr. Tony Knight

**Location:** Report Monday 8:00 a.m. to room A234.

**Learning Objectives:** Upon completion of the course students will:

1. Understand the importance of Foreign Animal Diseases (FAD) to American agriculture and the economy, and recognize the role veterinarians must play in preventing/managing FAD outbreaks.
2. Recognize the Office International des Epizooties (OIE) list diseases of greatest importance to animal and human health.
3. List the immediate measures a practicing veterinarian must take to recognize and prevent the spread of FAD.
4. Understand the role of OIE, and the Federal and State government's response to FAD, in order to coordinate one's response as a private practitioner.
5. Recognize the etiology, clinical signs and differential diagnoses of the most important FAD.
6. Acquire and demonstrate proficiency in locating and using current information on FAD.

### **Format of the rotation:**

Each group of students will have a one-week, half-day experience (20 hours total) for the course. Students will be assigned learning objectives for each day, and will be required to participate in the "Emerging and Exotic Diseases of Animals Course" offered on-line through the Veterinary Information Network to meet these goals. A daily, 2 hour group meeting with the instructor will be scheduled to provide opportunity for questions and directed discussion relevant to the day's learning objectives.

Assessment of the student's knowledge of FAD will be accomplished through required completion of quizzes related to on-line, case-based scenarios offered with the VIN course. Each student will be expected to complete 7 of the problem scenarios provided in the course

as part of their evaluation.

## **INDEPENDENT STUDY (IS) (CORE AND ELECTIVE; SPRING)**

**Guidelines:** Third year PVM students are encouraged to seek additional learning opportunities under the supervision of CSU faculty and staff. Examples include, but are not limited to:

Non-salaried participation in research or instructional design projects planned and implemented under the direction of a CSU faculty or staff member

Comprehensive literature reviews of contemporary veterinary and biomedical science topics

Participation in a Continuing Education (CE) course offered by CSU faculty or staff to graduate veterinarians or veterinary technicians

Participation in a CE course offered by University faculty to graduate veterinarians or veterinary technicians at a location other than the CSU campuses

Off-campus experiences: Unique educational experiences in an approved externship or preceptorship under the supervision of a practicing veterinarian, academician, health professional, or industry personnel may qualify for IS. The practice experience must consist of educational opportunities that are not available on the CSU campus. Observation only experiences in an off-campus practice are a valuable part of the educational experience but do not constitute an Independent Study. The off-campus supervisor of the Independent Study must submit a letter to the Associate Dean-PVM outlining the proposed plan of study and unique educational experience prior to approval of the Independent Study.

**An off campus IS must be approved by the Associate Dean-PVM a minimum of two weeks before the Independent Study is scheduled.**

Independent Study credit is not available for certain additional learning opportunities. Examples include, but are not limited to:

Attending conferences or other professional development activities for which there is no way to obtain an evaluation by a mentor or instructor for the activity

Completing training activities that are required for fulfillment of a salaried position, such as NIH-required training for Animal Care and Use or Human Subjects Research

Research or instructional design projects, laboratory or animal care activities, or private practice jobs for which monetary compensation is received

Third Year PVM students must obtain approval for their IS request from the Junior Practicum Coordinator a minimum of one week before the start of the IS (2 weeks for off-campus experiences with approval of the AD-PVM), in order to ensure that other duties are not compromised by a student participating in the IS activity, and that the learning objectives are reasonable. An e-mail message to Debbie Liptak (dliptak@colostate.edu) should include a brief description of the program and the name of the supervisor/mentor is necessary. In addition, if the IS chosen will interfere with course work, each course coordinator must be contacted to ensure that all missed class work, exams, and/or homework can be made up to the satisfaction of the course coordinator. This request is due at least one week prior to the IS rotation.

At the conclusion of the IS week the student must fill out an IS evaluation form (available from the Junior Practicum Web page), have it signed by the supervisor/mentor and return it to the Debbie Liptak's mailbox in the Clinical Sciences mail room.

All Junior Practicum associated IS programs must be done the week of the assigned IS rotation and during the hours of 8:00AM - 12:00N Monday through Friday.

## **PRACTICE ROTATION (PR) (CORE; SPRING)**

**Coordinator:** Dr. Dan Smeak and Lorie Johnson

**Instructors:** Local private practitioners, Ruch-Gallie

**Location:** VTH or local private practices 8A-noon (unless an earlier start time is pre-arranged) Monday through Friday

**Prerequisites:** None

**Objective:** Upon completion of this rotation, students will be able to evaluate and integrate common practice management procedures into the routine medical and surgical care of patients.

**Schedule:** Students will spend a minimum of four hours per morning, 5 days per week, working in local a private practice (or the VTH Community Practice) for 1-week rotations during the Spring semester. Students may request predominantly large vs. small animal experiences, but those requests may only be filled contingent upon availability of appropriate practitioners. Students will be assigned in pairs to each practice (unless the practice has facility or personnel limitations) to facilitate a shared learning experience, and will be expected to observe the operations of the practice, participate in the practice management, interact directly with clients, work together with each other and with technical support staff, and accept instruction in procedures from the supervising practitioner. The level of responsibilities accorded each student will be determined by the supervising practitioner, based upon the student's technical competence and progress during the course of the week. Students will be required to submit one brief, written report within one week of completing the externship. The main objective of this report will be to describe at least three principles of practice management identified in VM712 that are used in your practice, and to use specific case or procedure examples to illustrate those principles. Students will receive a written evaluation and grade by the practitioner and consulting faculty upon the completion of the externship.

## **RADIOLOGY CLINIC ROTATION (RAD) (CORE; FALL AND SPRING)**

**Coordinators:** D. S. Gibbons

**Instructors:** S. Kraft, R.D. Park, R.H. Wrigley, P.F. Steyn

**Location:** Meet at 8:00 am in the Radiology area adjacent to the viewing boxes.

**Bring:** to Radiology at 8:00 am: Film badge, imaging textbooks

**Review:** Course VM 625 - Principles of Diagnostic Imaging

## **OBJECTIVES**

The purpose of the radiology rotation is to familiarize the student with:

1. Use of radiographic equipment and technical factors to produce diagnostic radiographs
2. Basic principles of small and large animal positioning
3. Film processing (manual and automatic)
4. Formulation and use of technique chart. Understand the interaction of time, mA and kVp on the radiographic exposure
5. Radiation safety
6. Proper care of cassettes
7. Radiographic film artifacts and technical errors
8. The operation of radiology section - to include filling out a radiology request form, preparation of animal for special procedures and how to check out and return x-ray films for rounds
9. Students will be expected to learn the basic approach to radiographic interpretation through the use of teaching files. You will be assisted by a radiologist.

## **FILM INTERPRETATION SESSION**

You should develop a systematic approach to reading radiographs and become familiar with normal radiographic anatomy, radiographic densities and interpretation principles.

## **EXAMINATION**

WebCT test will be given on Friday. All evaluation forms should be returned to the Radiology office.

## **GRADING**

Students will be given an S or U grade compiled from the results of the WebCT test and evaluations of the radiologists and technologists.

# **ELECTIVE ROTATIONS FOR SPRING SEMESTER**

## **ADVANCED EQUINE PROCEDURES LABORATORY (EQPR) (ELECTIVE; SPRING)**

**Coordinator:** Baxter

**Location:** Location of recitations and labs will be indicated in a handout distributed to students approximately 1 week prior to each laboratory session

**Instructors:** Equine Faculty

### **Schedule and Objectives:**

**Monday (Equine Neurology) - The objective of this lab is to learn how to complete a neurologic exam on a horse .** A neurologic examination of the horse will be demonstrated with a video and students will perform a neurologic exam on a horse. A lumbosacral spinal tap will also be demonstrated on a live horse.

**Tuesday (Medicine Procedures) - The objective of this lab is to learn more advanced diagnostic and treatment techniques used in equine medicine.** In this lab, advanced equine diagnostic procedures are demonstrated, or completed by students. However, not all students actually do all the procedures because multiple invasive techniques are not performed on one animal. This laboratory will include application of a lip chain and a twitch, passage of nasogastric tubes, abdominocentesis, thoracocentesis, transtracheal wash, intravenous injections, catheterization of the urinary bladder, and endoscopic examination of the upper airway.

**Wednesday (Laparoscopic rectal) - The objective of this lab is to learn how to perform a better rectal examination using laparoscopy to confirm structures being palpated.** Students will perform a rectal examination on a horse with the aid of laparoscopic visualization. The laparoscope will be used to document what the student is palpating thus improving palpation skills. Students will be divided into three groups of 6-8 students per group for rectal palpation of three horses. It is recommended that students read how to perform a rectal exam of a horse in any equine text prior to the laboratory. A short discussion on rectal examination in horses may be given at the beginning of the lab, depending upon the instructor's wishes. Horses will be euthanized at the completion of this laboratory.

**Thursday (Cadaver surgery) - The objective of this laboratory is to learn how to apply a fiberglass cast and to practice common surgical techniques on cadaver limbs.** Application of a half-limb fiberglass cast will be demonstrated by the instructor. Students will then divide into 3 groups and apply a fiberglass cast and then remove it with an oscillating saw to learn the "feel" of cutting a cast from a leg. Surgical procedures will then be performed on cadaver limbs in the equine surgery area. The aim is to expose students to surgical techniques performed in practice. Principles of asepsis and atraumatic tissue handling should be adhered to during surgical manipulations. Students will divide into groups of two to perform the surgical procedures.

**Friday (Foot trimming/Ophthalmology) - The objectives of this laboratory are: 1) to learn the basics of hoof anatomy and foot care and to practice hoof trimming on cadaver feet, and 2) to learn how to perform an ophthalmic exam and local nerve blocks around the eye.** A faculty member will give a short presentation on the equine foot particularly related to proper trimming and shoeing. Salient aspects of the foot anatomy and function will be addressed as well as concepts of the natural balance trimming and shoeing method. Students will then be given the opportunity to trim cadaver feet using the principles learned. In the Ophthalmology portion a faculty member will demonstrate how to perform an ophthalmic exam and nerve blocks on a horse. Students will then divide into groups and perform ophthalmic exams on teaching horses and nerve blocks on cadaver horse heads.

## **ADVANCED SURGICAL TECHNOLOGIES (AST) (ELECTIVE; SPRING)**

**Coordinator:** Dr. Hendrickson

**Instructors:** Drs. Hendrickson and MacPhail

**Location:** Junior Surgery Laboratory

**Enrollment limit:** 10 students per week

**Course outline:** Modalities included: Laser surgery (CO2 and Diode), Cryo-surgery, Electrocautery, Advanced radiofrequency including a Ligasure device and endoscopic radiofrequency probes, Ultrasonic surgical devices including Autosonix and Minimally invasive surgery .

**Monday:** The first morning will consist of introductory information of each of the surgical modalities presented above. The different modalities will be split up among the students, and the bulk of the morning will be spent with the students researching their topics.

**Tuesday through Friday:** Each morning will be spent discussing a specific surgical modality. The afternoon will begin with a one hour discussion by the appropriate group of students of the specific benefits of the modality, and suggested surgical uses. This will be a mostly theoretical discussion on the mechanics of each modality, showing the pros and cons of each unit and comparing them to traditional methods of surgery. The rest of the morning will be spent doing mock surgeries on either cadavers, meat from the supermarket, and/or fruit. A proposed breakdown for the rest of the week would be:

Tuesday: CO2 Laser

Wednesday: Cryo-surgery, Electrocautery

Thursday: Diode laser

Friday: Radiofrequency (Ligasure, endoscopic probes), Ultrasonic (Autosonix) laparoscopy

## **CLINICAL CARDIOLOGY ROTATION (CAR) (ELECTIVE; SPRING)**

**Coordinator:** Dr. Chris Orton

**Instructors:** Drs. Orton, Bright, Sedacca, Scruggs, & Ms. June Boon

**Prerequisites:** None

**Equipment:** Stethoscope

**Location:** C - 122

**Description:** Cardiology is a full time clinical specialty service within the Veterinary Teaching Hospital. Drs. Chris Orton and Jan Bright share coverage of the cardiology service. Drs. Griffiths and Morrison are residents in cardiology. Ms. Boon is an echocardiographer. Each week, the cardiology service sees scheduled clinical appointments of small animals with cardiac problems. In addition, the service is available for internal referral of small animal cardiac cases from other services including the night-emergency and triage services. The cardiology service provides in-house echocardiography, electrocardiography, and cardiac consultation services for small, large, and exotic animals.

In addition to the standard cardiology services mentioned above, specialty activities such as interventional cardiology and cardiothoracic surgery are performed on the cardiology service. Interventional cardiac procedures include diagnostic cardiac catheterization, balloon valvuloplasty, electrophysiological studies/procedures, and other catheter-based interventional procedures. Cardiothoracic surgery includes open-heart surgery.

Students electing to take this rotation will participate in the diagnosis and medical management of cardiac cases. Emphasis is placed on developing physical examination skills including

auscultation. Training is received in electrocardiography and echocardiography. Students will also have the opportunity to participate in advanced cardiovascular techniques such as cardiac catheterization and cardiac surgery.

## **COMMUNITY PRACTICE AND PREVENTATIVE HEALTH PROGRAM (COP) (ELECTIVE; FALL & SPRING)**

**Coordinator:** Dr. Ruch-Gallie

**Instructors:** Drs. Weir, Ruch-Gallie

**Location:** B-119A VTH 8:00AM-Noon Monday & 7:30AM-Noon Tuesday through Friday

**Prerequisite:** None. Please review Elective Surgery CD's and Preventive Health Program notes before start of rotation. Student should bring scrubs with them each day.

**Objective:** At the close of the rotation, students should be able to effectively communicate new pet information including wellness plans and behavior issues to clients as well as identify anatomical landmarks for elective surgeries. Students should also develop an awareness of proper sterile field management and comfort in surgical environments.

**Schedule:** Community Practice is designed to provide the student with an opportunity to evaluate typical cases seen in private practice. The schedule includes preventative health appointments, non-referred, non-emergency medical appointments and elective surgeries. Emphasis is placed on quality medicine, efficient case management and client education. Third year students will participate in rounds each morning. Each third year student will be working with fourth year student doctors in receiving medicine cases and assisting with elective surgery cases as well as providing quality care to hospitalized patients.

## **COMPLEMENTARY AND ALTERNATIVE MEDICINE AND INTEGRATIVE PAIN MANAGEMENT JUNIOR PRACTICUM (CAM) (ELECTIVE; SPRING)**

**Faculty:** Narda G. Robinson, DO, DVM , MS , FAAMA

**Prerequisite:** Successful completion of the junior elective course, **VM 720** , Critical Overview of Complementary and Alternative Therapeutics

**Maximum Enrollment:** 3 junior PVM students.

**When Offered:** Spring semester. Offered three times.

### **Objectives:**

- **Patient evaluation:** Learn how to perform an acupuncture examination, including palpatory assessment of diagnostic points, palpation examination for myofascial and soft tissue pain.
- **Technique:** Learn the basics of acupuncture needle insertion and stimulation. Review pertinent musculoskeletal and neural anatomy.

- **Additional possibilities:** If the time permits, students may have the opportunity to create client information handouts on one or more complementary modalities, to be uploaded to the CSU CAM website.

**Expectations and Details about the Clinic Experience:** New patient visits will be scheduled for one hour. Established patients generally require one-half hour. Students may either obtain the history from the client and perform the physical on the patient on their own or do so in conjunction with Dr. Robinson.

Students will have the opportunity to observe acupuncture treatment sessions and record findings from the patient assessment. Students will be provided with a list of acupuncture points to learn (i.e., their location, indication(s), neuroanatomic and neurophysiologic connections) and will be able to see when and why they may be included in an acupuncture treatment.

**Evaluations:** On the last day of the rotation, students will be evaluated either on clinic patients or their own animals in terms of their ability to:

- Identify myofascial trigger points and taut bands.
- Locate key acupuncture points and discuss their indications and neurophysiologic impact on the body when stimulated.

## **DERMATOLOGY (DERM) (ELECTIVE; SPRING)**

**Coordinator:** Dr. Rod Rosychuk

**Instructors:** Drs. Rosychuk, Zabel and Fieseler

**Location:** Check with the Dermatology service clinician or Dr. Fieseler on the Friday prior to your rotation to establish a time and place to meet when the rotation begins on Monday. This will most commonly be 8:00 am in the Dermatology Rounds room.

**Prerequisites:** None; this rotation is limited to 2 students per week

**Objectives:** Juniors will assist seniors in doing physical examinations and the diagnostic work up of predominantly small animal dermatology cases seen by the Dermatology service. Some large animals with skin problems (predominantly horses) may be seen. Emphasis will be placed on learning to take an appropriate dermatologic history, performing a thorough dermatologic examination, and performing routine dermatologic diagnostics. Juniors will be expected to participate in morning case rounds and special topic discussions.

## **EQUINE LAMENESS AND SURGERY CLINIC ROTATION (EQS) (ELECTIVE; SPRING)**

**Faculty and Residents:** Drs. Baxter, Goodrich, Hassel, Hendrickson, Kawcak, Sullivan, Joyce, Carpenter, McCoy

**Equine Nurse Contact :** Julie Roselle; Any questions or concerns of this rotation should be directed to Julie or Dr. Baxter

**Location + Protocol:** There are two surgery services running during these weeks and the group of 3-4 junior students will be split between these two surgery teams. **Please meet each**

**day of the week at 8 AM in the equine breezeway/covered area just outside of the entrance to the equine hospital.** Julie Roselle, an equine nurse, will direct you to the appropriate area to join up with the two equine surgery teams. During the week, you will be directed by senior students, residents and the faculty surgeon in charge of the clinic rotation. Please wear blue smocks and bring scrubs on surgery days.

**Objectives:** The primary Objective of this junior rotation is to familiarize and orient the student with the activities of the equine lameness and surgery rotation within the Veterinary Teaching Hospital and to commence the transition from classroom to practice in equine clinical lameness and surgery. This helps prevent wasted acquaintance time as seniors and makes the senior year rotations more constructive to the student. Junior students will participate in the clinical rotation as directed by clinicians, residents and senior students.

**Expectations :** You are expected to be present each morning of the weekly rotation and stay until the faculty surgeon has dismissed you at noon. In addition, you are welcome to come back and help the senior students with treatments, bandage changes, and other miscellaneous duties at the end of the day. On days when surgery is being performed, you should be present in the surgery room to watch the surgery and assist the surgery team in moving horses, recovery of horses from anesthesia, admitting cases, and whatever else is needed to help the clinic rotation run more smoothly. You should also assist senior students in case management, sample submissions, paperwork and biosecurity protocols to familiarize yourselves with these important duties. Please feel free to ask questions to maximize the learning potential of the rotation.

## **EQUINE MEDICINE CLINIC ROTATION (EQM) (ELECTIVE; SPRING)**

**Coordinator:** Drs. Landolt and Goehring

**Instructors:** Drs. Landolt, Goehring and MacLeay

**Location:** Monday morning at 8:30 AM in the Medicine Rounds Room (equine barn)

**Prerequisite:** None; this rotation will be limited to 3 students per week.

**Objectives:** The major objective is for junior students to observe workups of equine medicine cases including: history taking, physical examination of the horse, and decision making in regard to further workup and therapy. Students will be exposed to a variety of equine medicine cases. The goal of the rotation is to learn how to work up an equine internal medicine case in a problem oriented fashion. Furthermore, the student should develop an understanding of how to integrate information obtained from the medical history, physical examination and diagnostic testing. Juniors should try to pair up with a senior student on the rotation in order to become familiar with record keeping, sample submission, location of supplies, and isolation technique; this will assure a smooth transition to the senior year.

## **FOOD ANIMAL MEDICINE ROTATION (FAM) (ELECTIVE; FALL & SPRING)**

**Coordinator:** Dr. Callan

**Location:** Food Animal Hospital. We will meet at 8:00 AM on Monday in the food animal hospital reproduction lab or in the main hospital. If no one is present you may begin reviewing the medical records for currently hospitalized patients.

**Prerequisite:** None; this rotation will be limited to 3 students per week.

**Objectives:** The Food Animal Medicine Rotation provides junior students with an opportunity to become familiar with the food animal hospital and to gain specific hands on exposure to food animal husbandry, handling, restraint, diagnostics, treatment, and surgery. Students are encouraged to work along with senior students in the management of clinical cases. They will

be integrated into the daily activity of the Food Animal Hospital and will participate in the receiving, clinical evaluation, treatment of food animal cases, and completion of medical records. The students will obtain specific hands on responsibility that is consistent with both their individual interest and abilities. Students should review methods for the physical examination of ruminants from the handout provided during Fall semester in the LAP rotation or the section on physical examination in Smith, Large Animal Internal Medicine prior to the rotation.

**Supplies:** All students must have a clean pair of coveralls and over boots (i.e. boots that fit over your shoes, not dairy boots that fit over your stocking feet). During this rotation you may interact with clients so you will need to wear clothing that meets the standards of the VTH Dress Code. You will also need your stethoscope and a pen light. You should have surgical scrubs available in case you are asked to assist with a surgery.

## FOOD ANIMAL OBSTETRICS (FAO) (ELECTIVE; SPRING)

**Location:** See handout prior to rotation or see Dr. Mortimer

This lab is required for all students that elect the FAX & FAD labs, as an extension of that training, but is also available as a separate elective to other students. The lab is also required training for students that intend to participate in the Senior Calving Management or Lambing Management electives in the senior practicum. The lab is intended to provide training in delivery techniques, dystocia management, and fetotomy. Students will also participate and learn how to use the Utrecht suture pattern for C section. In addition, this lab provides training in large animal clinical parasitology. Students will perform quantitative fecal egg counts on both equine and bovine specimens; evaluate skin scrapings and external parasite identification; observe the Baerman technique and observe fluke recovery. In addition, students are required to pass a quiz over the clinical parasitology and obstetrical material and achieve a score of 70% or better.

## LABORATORY ANIMAL MEDICINE (LAM) (ELECTIVE; FALL OR SPRING)

**Coordinator:** Dr. VandeWoude

**Instructors:** VandeWoude, LAR animal care staff and veterinarians, comparative medicine residents, investigators, RICRO staff

**Location:** TBA, 8:00 a.m.

**Prerequisites:** None

**Objectives:** To introduce students to the specialty of Laboratory Animal Medicine, including husbandry and management of lab animal species, regulatory and administrative aspects of the profession, demonstration/practice of laboratory animal handling, techniques and methodologies, and animal models used in research.

### Monday: Orientation and Tour

Overview of laboratory animal medicine as a profession, tour of central animal facility.

### Tuesday-Thursday:

#### Regulations and ACUC

Presentation on regulations overseeing animal research and review of mock research protocols.

#### Procedures laboratory; Rodent Health Surveillance Laboratory

Assist LAR technicians and veterinarians with ongoing procedures being used in research studies. Discuss set up of rodent disease control and surveillance program. Perform handling, anesthesia, surgery, and necropsy of rabbits and rodents.

### **Friday: Student Presentations**

Each Student will be asked to present a 15-20 minute presentation on some aspect of laboratory animal medicine.

**Other:** Depending upon availability and time permitting discussions of environmental enrichment, morbidity and mortality rounds, animal welfare/animal rights, tours of specialized facilities, and other pertinent issues may be included.

### **Alternative Program**

Will be provided upon a case-by-case basis. Most discussions and labs do not use live animals and those that do nearly always use animals already on premises being used in research projects. Students with objections to participation in such labs will be accommodated by providing alternative exercises.

## **NEUROLOGY (NEU) (ELECTIVE; FALL OR SPRING)**

**Coordinator:** Drs. Klopp and Cuddon

**Instructors:** Drs. Klopp and Cuddon

**Location:** Neurology rounds room at 8:30 AM.

**Objectives:** This elective rotation is recommended for students with a particular interest in small animal neurology.

**What to bring:** Stethoscope, clean smock (dress to see clients), functional penlight, leash, pleximeter (neuro hammer), hemostat and a positive attitude.

### **Monday-Friday**

Each junior will be linked to a senior student and expected to assist in receiving neurology cases. A neurologic examination will be performed on each patient followed by lesion localization leading to appropriate diagnostic testing to establish a diagnosis and treatment plan. If cases ultimately require surgical intervention, students are encouraged to follow the case to surgery. Students will observe surgical procedures and learn operating room etiquette. Students are encouraged to come to the clinic early to evaluate their cases with the senior students before rounds begin.

During the week students will be shown how to do a complete neurologic examination, list differential diagnoses for common disorders and choose appropriate diagnostic tests for patients with neurologic disease.

## **ONCOLOGY/CLINICAL ELECTIVE (ONC) (ELECTIVE; FALL AND SPRING)**

**Faculty Coordinator:** Dr. Sue Lana

**Location:** Oncology, Rounds Room

### **Instructor's names**

All clinical oncology faculty including residents and fellows will be involved in this rotation. The rotation is typically staffed by one medical oncology faculty, one surgical oncology faculty, two medical oncology residents, and one surgical fellow. There will be a maximum of 4 junior students on each week.

### **Location of rotation**

On the first day of the rotation, students will meet in the oncology rounds room at 8:30 am. Students should come prepared for all clinical situations and should bring lab coat, scrubs, and appropriate clinical tools (stethoscope, thermometer, etc). Students will receive a copy of the oncology orientation handout the week prior to the rotation. Students are expected to review and comply with the VTH Dress Code which is posted to the website. In addition, we request that students do not wear jeans and that men wear neckties.

### **Objective**

The objectives of this rotation are to teach students a realistic and optimistic approach to the diagnosis and treatment of pets with cancer. The oncology service is busy and allows students the opportunity to get involved with a wide variety of medical and surgical problems.

### **Course description**

This is a one week clinical rotation. Students will be involved in all aspects of the clinical oncology service including morning case rounds, oncology topic rounds, new patient receiving with the senior students, and case work up. In most instances, students will be assigned to a senior student and will assist them in all aspects of the clinical service. If the senior student does not require assistance, the junior student will have the opportunity to be involved in assisting with recheck appointments, including presenting the patient for diagnostics, animal restraint, venipuncture and chemotherapy administration. This will be an excellent opportunity for the student to become familiar with VTH records, paperwork and patient flow within the VTH.

### **Evaluation**

Students will be evaluated based on attendance, participation in the rotation, and completion of a brief assignment and the course evaluation. Many learning opportunities exist on this clinical rotation. You will get out of the rotation what you put in.

## **ORTHOPEDIC DIAGNOSTICS (OD) (ELECTIVE: FALL & SPRING)**

**Coordinator:** Small Animal orthopedic Faculty

**Instructors:** Small Animal Orthopedic Faculty, SAS Residents, and Sean Brevard

**Location:** Small Animal Orthopedics Rounds Room

**PREREQUISITE:** None ; this rotation will be limited to 3 students per week.

**Objectives:** Juniors will help senior students and the orthopedic surgery technician with orthopedic rechecks, bandage changes, orthopedic examinations, and postoperative radiographic exam/interpretation. Occasionally, students will observe and scrub in on orthopedic surgeries. Students will be expected to participate in afternoon case rounds discussions.

**What to Bring:** Stethoscope, smock, penlight, leash, dress to see clients, good attitude.

### **Monday-Receiving**

8:30-9:30 AM. Students attend case rounds discussions

9:30AM-12:00 Noon. Each junior is linked to a senior student and expected to assist in receiving orthopedic cases. Appropriate diagnostic tests are performed, a diagnosis is established and a surgical plan determined.

### **Tuesday-Surgery**

8:30-9:30 AM. Students attend case rounds discussions

9:30AM-12:00 Noon. Students are encouraged to follow the previous day's cases to surgery. Students will observe surgical procedures, learn operating room etiquette, and occasionally scrub in.

### **Wednesday-Receiving**

8:30-9:30 AM. Students attend case rounds discussions

9:30AM-12:00 Noon. Each junior is linked to a senior student and expected to assist in receiving surgical cases. Appropriate diagnostic tests are performed, a diagnosis is established and a surgical plan determined.

### **Thursday-Surgery**

8:30-9:30 AM. Students attend case rounds discussions

9:30AM-12:00 Noon. Students are encouraged to follow the previous day's cases to surgery. Students will observe surgical procedures, learn operating room etiquette, and occasionally scrub in. Check in the rounds room in the afternoon to see what time Friday morning rounds will be held (prior to or after "Grand Rounds").

Friday-Surgery "clean-up"

7:45-8:30AM. Students attend case rounds discussions.

8:30-9:30AM Students attend "Grand Rounds"

9:30AM-12:00Noon. Any cases remaining to be operated are done on Fridays.

## **PET PHYSIOTHERAPY AND COMPREHENSIVE PAIN MANAGEMENT (ELECTIVE; FALL OR SPRING)**

**Faculty:** Robin Downing, DVM

Certified Veterinary Acupuncturist

Diplomate, American Academy of Pain Management

Certified Canine Rehabilitation Practitioner

**Length of course:** 1 week (5 days, ½ days, 20 hours)

**Course/Student Schedule:** 1 - 2 hours AM - - didactic/interactive lecture

2 - 3 hours AM - - clinical cases or wet-lab format

### **Course Description:**

This rotation is designed to provide an introduction to physical therapy concepts and the history of veterinary physiotherapy/rehabilitation. Key concepts will be introduced during the didactic lectures that are scheduled, and as much time as possible will be devoted to demonstrating and (if possible) practicing the techniques and modalities utilized in pet physiotherapy.

Students will be guided in the use of a pain scoring system to help determine how best to create a comprehensive approach patients who will benefit from physiotherapy (several pain scoring systems will be utilized)

Following introductory lecture time about various physiotherapy modalities - - physical agent modalities, tissue mobilization, emerging modalities - - the students will have an opportunity either to practice techniques on clinic-owned pets, or to participate as the techniques are

applied to client-owned pets.

Part of the lecture material will cover the key concepts of treatment for various patient groups - orthopedic surgery patients, neurologic patients, chronic pain patients, acute pain patients. Likewise, there will be time dedicated to learning about conditioning and injury prevention in athletic dogs.

One critical area that will be covered is understanding the role of pharmacology in comprehensive pain management strategies which include physiotherapy. Students will be introduced to crafting a multi-modal pain management strategy for both acute and chronically painful pets.

Finally, time will be spent learning how to adapt and apply physiotherapy techniques to cats. Also, students will be encouraged to think through how they might introduce physiotherapy into a general, primary-care veterinary practice.

Student Objectives:

- Students will learn how to do a practical pain assessment on dogs and cats
- Students will learn how to apply a variation of the Visual Analog Scale for scoring pain in dogs and cats
- Students will learn how to apply the CSU Pain Scales for cats and dogs (Hellyer, et al)
- Students will gain an introductory understanding of the physical modalities associated with physical rehabilitation, including the delivery of several modalities
- Students will be able to introduce basic physiotherapy techniques into a practice situation in which they find themselves

## **RABBIT AND RODENT MEDICINE (RRM) (ELECTIVE; FALL OR SPRING)**

**Coordinator:** VandeWoude

**Instructors:** VandeWoude, comparative medicine residents, LAR veterinarians and technical staff

**Prerequisites:** None, but suggested as practicum exercise to complement VM778B lecture course.

**Location:** TBA-8:00 AM

**Objectives:** To familiarize students with the biology, husbandry, diseases and common clinical and surgical techniques used in rabbits and rodents (rats, mice, guinea pigs, hamsters). It is primarily designed for those interested in learning clinical procedures and case management of these species in a private practice setting.

### **Monday-Orientation and Tour**

Overview of schedule for the week, rounds/tour of animal facility with discussion of biology, husbandry, behavior and diseases of rabbits and rodent species.

### **Tuesday-Thursday**

Case studies of rabbit/rodent clinical conditions by LAR veterinarians and residents. Instruction and practice of handling and bleeding and anesthesia techniques. Cadaver or terminal surgery and necropsy on rats and/or rabbits including exploratory, spay and neuter.

### **Friday-Student Presentations**

Each Student will be asked to present a 5-10 minute case study.

**Other:** Depending upon availability and time permitting discussions on rabbit/rodent behavior, environmental enrichment, clinical pathology or pathology may be included.

### **Alternative Program**

Will be provided upon a case-by-case basis. Most labs use animals already on premises being used in research projects. Students with objections to participation in such labs will be accommodated by providing alternative exercises.

## **SHELTER MEDICINE (SM) (ELECTIVE; FALL OR SPRING)**

### **Shelter Medicine at the Larimer Humane Society**

**Coordinator:** Dr. Nicole Wilkerson, Shelter Veterinarian  
226-3647, extension 329

**Faculty liason:** Dr. Mike Lappin, Professor  
297-0313, mlappin@colostate.edu

### **Orientation**

Meet Monday morning at 8:30 am. Use the employee entrance (the blue door at the northeast corner of the building). You will be given a brief overview of the week and a tour of the shelter facilities. Please bring a stethoscope, wear scrubs and a nametag, and be prepared for hands-on work with the animals.

### **Requirements for the week**

NO special preparation is required. Come prepared for interactive discussion. The Larimer Humane Society is not a no-kill shelter. Students should be prepared to learn about euthanasia and, if comfortable, may participate in this process with proper guidance. The staff at the shelter is very hard-working and knowledgeable! Ask if you need assistance! **Safety is a priority!** Some of the animals you will encounter are not easy to work with. Do not handle animals if you feel uncomfortable or have not been shown proper restraint. Never be afraid to ask for help.

### **Objectives for the rotation**

1. To gain familiarity and comfort with the restraint and physical examination of dogs and cats with varying temperaments.
2. To understand diagnostic and basic preventative health plans for typical shelter cases.
3. To gain experience with administration of vaccinations and oral medications, and venipuncture.
4. To learn how to age animals accurately, identify breed characteristics, and assess temperament of animals with unknown histories.

5. To participate in the shelter's spay/neuter program
6. To gain insight into the daily operations of an animal shelter and the need for community and veterinary support and education.

### **Daily Schedule**

Monday- Shelter health with the veterinary staff **(8:30 am)**

Tuesday- Anesthesia and cat castrations with veterinary staff **(8:30 am)**

Wednesday- Ride-along with animal control officers **(8:00 am)**

Thursday- Dog and cat exams/evals/blood draws with evaluation team **(8:30 am)**

Friday- Wildlife rehabilitation with WildKind **(8:30 am)**

Please remember that the shelter is in full operation during your rotation. Keep in mind that you are not employed by the shelter and any questions from the public should be directed to a staff member.

## **Basic Examination**

### **Take a history if possible**

Many shelter animals come to us with unknown pasts and we cannot obtain a history. However, with foster animals or animals who have a history form filled out, it is important to obtain as much information as possible. Ask questions regarding the following: diet/appetite, stool/urine production, vaccines, deworming, prior medical history, travel history, current medications, environment, etc.

### **Physical Examination**

Learn to be systematic in your physical exam (i.e. move from head to tail). TPR (temp, pulse, and respiratory rate) should be taken first as any stress may change these values.

Weigh the animal and assess body condition score

(1-5 or 9 depending on scale used, with 1 being emaciated and 5 or 9 obese)

Rectal temperature

Pulse/ Heart rate

Respiratory rate

Check eyes for clear, bright, healthy appearance

Look in ears for debris (Infection? Ear mites?)

Check nose for discharge

Look at teeth and estimate age

Check sex. Shave females and check for a spay scar

Examine for hair loss, lumps, bumps, wounds, etc.

In cats- also trim nails and note if declawed

### **Small mammal/ Pocket pet**

Check sex. Separate males and females!

Note if pregnant

Trim long nails

Check length and health of teeth. Look for malocclusion

### **Dr. Wilkerson's Favorite Shelter Medicine Resources**

Association of Shelter Veterinarians- [sheltervet.org](http://sheltervet.org)

UC Davis Koret Shelter Medicine- [www.sheltermedicine.com](http://www.sheltermedicine.com)

### **Vaccine Protocol at the Larimer Humane Society**

1. Since all aspects of vaccination cannot be covered, the veterinarian on duty must be consulted when necessary.
2. Core vaccines at LHS include injectable modified-live virus FVRCP for cats and DA2PP for dogs 6 weeks of age and older. Rabies vaccines are administered to all adoptable animals 16 weeks of age and older.
3. All animals 6 weeks of age and older shall be vaccinated with FVRCP (cats) and DA2PP (dogs) on admittance to the shelter.
4. Rabies vaccines are administered once to all animals at 16 weeks of age.
5. Rabies vaccines are administered in the subcutaneous space of the distal right hind limb.
6. Schedule for other core vaccines (FVRCP and DA2PP) is as follows: Kittens and puppies 6 weeks of age and older: Vaccinate once on admittance and then every 4 weeks until the age of 16 weeks. Dogs and cats 16 weeks and older: Vaccinate once on admittance and booster once in 4 weeks.
7. FVRCP and DA2PP are administered in the subcutaneous space of the distal right forelimb.
8. Vaccines should be stored and prepared in accordance with package inserts.
9. Once a vaccine is mixed, it should be kept refrigerated until the time of administration.
10. All vaccines should be administered within 24 hours of mixing.
11. Vaccines not administered within 24 hours of mixing should be disposed of appropriately.
12. To administer subcutaneous vaccines, lift the skin away from the body and insert the needle into the 'tent' that has been created in the skin.
13. Pull back on the syringe plunger to examine for negative pressure and to make sure there is no blood.
14. Then push the plunger to insert the liquid into the subcutaneous space.
15. Any vaccine liquid that contaminates the animal's fur should be cleaned immediately.
16. Exceptions to the above protocols include, but are not limited to, animals that appear to be pregnant or sick. In these cases, consult the veterinarian on duty.
17. When deemed necessary by the veterinarian on duty, other non-core vaccines may be administered to shelter animals.

### **Parasitology at the Larimer Humane Society**

1. Since all aspects of parasitology cannot be covered, staff must consult the veterinarian on duty when necessary.
2. The routine anthelmintic at LHS is pyrantel pamoate (Strongid) given orally.
3. All animals ages 4 weeks of age and older shall be dewormed on admittance to the shelter.
4. Deworming is repeated every 2 weeks in animals up to 8 weeks of age.
5. Animals over 8 weeks of age will have one repeat dose 2 weeks from the initial dose.
6. Dosing is as follows (concentration 50 mg/mL):

**Dogs: Up to 5 pounds = 10 mg/kg, Over 5 pounds = 5 mg/kg**

Weight in pounds    Dose in mL

Up to 10	0.5
11 - 25	1.0
26 - 35	1.5
36 - 45	2.0
46 - 55	2.5
56 - 70	3.0
71 - 90	4.0
91 - 100	4.5

**Cats: 10 mg/kg**

Weight in pounds	Dose in mL
Up to 5	0.5
6 - 10	1.0
11 - 15	1.5
16 - 20	2.0

## SMALL ANIMAL SURGICAL ANATOMY (SAA) (ELECTIVE; FALL & SPRING)

**Coordinator:** Dr. MacPhail

**Instructors:** Drs. MacPhail, Palmer, Seim, & Small Animal Surgery Residents

**Description:** This is a cadaver laboratory that focuses on applied anatomy of the dog and cat. Students not only review anatomic structure, but also perform simple and practical surgical procedures. This is the only laboratory setting in which basic orthopedic surgery is a primary focus.

**Time & Location:** Monday-Friday 8am-12pm W-106 (Computer Lab) and W-111 (Small Prosection Room) in the Anatomy Building

**Procedures:**

- Ovariohysterectomy
- Castration
- Declaw
- Cystotomy
- Gastropexy
- Intercostal thoracotomy
- Craniolateral approach to the hip
- Femoral head and neck ostectomy
- Approach to the stifle
- Extracapsular cranial cruciate stabilization
- Forelimb Amputation

## SMALL ANIMAL WARDS (SAW) (ELECTIVE; SPRING)

**Coordinator:** Dr. Lappin

**Instructors:** Small Animal Medicine Faculty Residents and interns

**Location:** Small Animal Internal Medicine 1 rounds room at 5 pm; find the senior students and house officer on wards duty.

**Objectives:** Small Animal Wards Duty is a 5-11 pm shift. While on this rotation you will assist senior students and the emergency doctors with treatments, emergency phone calls, and initial

admission and triage of small animal emergency cases. This is a great opportunity to see more cases in a "real-world" setting.

**What to Bring:** Smock, stethoscope, pen, name badge, thermometer, bandage, scissors

## **SPANISH FOR VETERINARIANS (SV) (ELECTIVE; FALL and SPRING)**

**Coordinator:** Dr. Regina Schoenfeld-Tacher

**Instructors:** Dr. Schoenfeld-Tacher and simulated clients

**Location:** Dependent on room scheduling (preferably ACC 120). Classes begin at 8:00 AM and end at noon, and there is usually a ten-minute break every hour on the hour.

**Objectives:** This course will prepare junior students with limited prior knowledge of Spanish to conduct basic clinical conversations with clients and livestock managers in Spanish. Please refer to the **tentative** schedule below for more details. Upon completion of this course, students will be able to:

1. Conduct a clinical interview in Spanish.
2. Provide a clinical diagnosis and explain their rationale to the client
3. Explain any necessary procedures to the client and obtain consent to perform them.
4. Describe the results of diagnostic tests and explain the treatment options to the client.
5. Provide instructions for after-care to the client, and verify his/her understanding and cooperation.
6. Provide appropriate client education to prevent future problems.

**Pre-requisites:** Some prior knowledge of Spanish is helpful/recommended, but not required.

## **SOFT TISSUE DIAGNOSTICS (SD) (ELECTIVE; FALL and SPRING)**

**Coordinator:** Dr. MacPhail

**Instructors:** Drs. Seim, Monnet, MacPhail, and surgery residents

**Location:** Surgery B rounds room at 8:30 AM

**Description:** This elective rotation is recommended for students with a particular interest in soft tissue surgery. This is NOT a surgery laboratory. Students will attend soft tissue surgery rounds, participate in receiving cases, and observe clinical surgery cases.

**What to bring:** Blue coat, nametag, stethoscope, thermometer, penlight, leash, bandage scissors, and a good attitude. Students should be appropriately attired to see clients and should also have clean scrubs available every day.

## **ZOOLOGICAL MEDICINE CLINICS (EXO) (ELECTIVE; SPRING)**

**Coordinator:** Campbell

**Instructors:** Campbell, Johnston, Grant

**Location:** VTH, Zoological Medicine Ward, 8:00 AM

**Prerequisites:** None

**Objectives:** The junior student will participate in the morning clinical activities along side the senior students. The experience will vary according to the clinical cases presented to the service each day. This provides the junior student with the opportunity to become familiar with

the management of exotic animal cases in the zoological medicine service in the VTH.

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## **VM796R FOOD ANIMAL CLINICAL PROBLEMS: This is NOT PART OF THE PRACTICUM**

This is a regular 3 credit course that is a prerequisite for the FAD/FAX practicums. It is described here for informational purposes only.

**Credits:** 3

**Term offered:** Fall semester

**Course Coordinator:** Dr. Rob Callan

**Course Description:** The goal of this 3 credit course is to identify and describe the diagnostic, therapeutic, monitoring, and management strategies used in food animal veterinary practice. Diagnostic and therapeutic alternatives will be discussed with an emphasis on the techniques and the fundamental decision process involved in their selection. Where appropriate, the relationship between individual animal disease and herd health issues will be addressed.

### **General Course Objectives:**

- The student will be able to describe the anatomical landmarks and techniques for performing standard diagnostic, husbandry, medical and surgical treatment procedures used in food animal veterinary practice.
- The student will be able to critically evaluate the indications and contraindications for standard diagnostic, husbandry, medical and surgical treatment procedures used in food animal veterinary practice and apply these to clinical scenarios.
- The student will be able to evaluate diagnostic test results and apply them in selecting and ranking differential diagnoses and prescribing appropriate treatments.
- The student will be able to evaluate specific individual animal diseases with regard to herd health and husbandry management problems.

**Additional Class Materials:** Lecture notes including the course syllabus, course objectives, and pertinent published articles will be provided. Additional WebCT resources will include lecture Power Point presentations, homework assignments, and additional supplementary learning aids that are best presented in an interactive computer environment. All subjects will have an instructional homework assignment available.

**Methods of Student Evaluation:** Students are required to complete at least 10 of 20 available homework assignments. The 10 homework assignments with the highest scores will be used for grading purposes and will count for 60% of the grade. A final exam will be prepared that will consist of components from all lectures and will count for 40% of the final grade.

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## **GRADING POLICY**

Junior Practicum is a course that is graded P/F based upon student participation. Simply put; if

you are absent from your rotation you will receive an incomplete grade for the semester.

In extenuating circumstances (to be determined by the Practicum coordinator or Associate Dean for curriculum), the laboratory/rotation coordinator may use his or her discretion in allowing an excused absence with a makeup provision. However, student convenience to travel and attend other interests is not adequate basis for an excused absence.

Making up a rotation, laboratory, or lecture will depend upon the type of lab/rotation/lecture, how often it is offered, and the convenience of rescheduling. If a rotation can be easily rescheduled (or is elective and can be replaced), then it is up to the Junior Practicum coordinator (Dr. Seim) as to how much schedule changing will be accommodated. In the case of core rotations or track specific required electives offered on a limited basis, there may not be much flexibility and students must accept the consequences of an incomplete for the semester (in some instances the next makeup laboratory could be the following year). Some clinic rotations can be made up during vacations or semester break. Makeup exercises are not designed to be punitive, rather they ensure the student gains the necessary experience to advance to the Senior Practicum.

Please make every effort to attend your Junior Practicum rotations.

**VM786BV SENIOR PRACTICUM  
ELECTIVE LIST – SENIOR PRACTICUM 2009-2010**

**CORE SENIOR PRACTICUM ROTATIONS 2009-2010**

**(All these rotations are available as electives except for the CORE Anesthesia, Diagnostic Imaging, Critical Care Rotations)**

1. **Equine Lameness and Surgery** The equine surgery rotation enjoys a large and varied caseload. Students taking this elective will have the opportunity to improve their skills in lameness evaluation, diagnosis and the development of a treatment plan for varied musculoskeletal problems affecting the equine athlete. In addition the student will be closely involved with the examination and development of a treatment plan for horses that are presented for various surgical conditions. Students may request to work with the duty surgeon of their choice.

**Faculty contact: Drs. Goodrich, Baxter, Kawcak, and Bellezzo**

2. **Equine Medicine** This elective rotation is a similar experience to the required rotation. In addition, during this elective rotation, students will have the opportunity to perform, time and cases permitting, various special diagnostic procedures.

**Faculty contact: Drs. Goehring and Landolt**

3. **Equine Field Service** The objective of this elective rotation is to give the student the opportunity to participate in practice oriented diagnostic and therapeutic procedures. Common activities include lameness, dentistry, reproduction, herd health, and emergency procedures. The field service experience furthers the students skills, capabilities and confidence. There is an opportunity to learn more of client relations and practice economics.

**Faculty contact: Drs. Connally and Davidson**

4. **The Food Animal Medicine Elective** Students are integrated into the regular food animal medicine core service. This 2 week elective provides additional experience in the diagnosis and treatment of individual animal medical and surgical problems. The caseload is comprised of about 50% bovine, 35% camelid, 10% sheep and goat, and 5% pet pigs. The case load is highest during the months from April through October. A two week elective is required.

**Faculty contact: Drs. Callan and Holt**

5. **Food Animal Field Service** This rotation will provide experience with on the farm problems of dairy cattle. An opportunity will be provided to gain experience in rectal palpation, nutritional and reproductive management in the dairy cow, and will provide an introduction to the concepts of mastitis control and milking system evaluation. An exposure to various dairy production records is assured. Additional weeks may be used to increase proficiency or explore other concepts of dairy herd health management. This rotation provides the most dependable opportunity to gain experience in the rectal palpation of cattle.

**Faculty contact: Drs. Dinsmore**

6. **Large Animal Emergency Medicine** Students selecting this elective rotate through the equine barn, food animal barn, and emergency on-call duty each night for one week, Sunday night through Saturday night. On-call students carry a pager and are on call from 4:30pm through 7am. Barn LAEM students are on duty from 9:45 pm to 7:00 am and provide intensive care and monitoring of all large animal inpatients and may assist with receiving nighttime large animal emergencies. All students attend daily case rounds from 7-7:30am Monday through Friday.

**Faculty contact: Drs. Hassel and Sullivan**

7. **Postmortem Diagnosis** Seniors taking this elective will gain additional experience in postmortem diagnostic techniques, interpretation and strategy. Activities focus on teaching hospital-derived cases and other subject material. The activities also depend on interests of the student and can include additional necropsy cases, microscopy reviews or surgical pathology. Students with interest in alternative career paths have an option to explore special areas of pathology investigation.

**Faculty contact: Dr. Mason and faculty assigned to hospital pathology service.**

8. **Neurology**: This elective is designed to provide the student having a special interest in neurology with an opportunity to gain additional experience, training and confidence in that field. The student will participate in patient receiving, rounds discussions, and neurological consultative examinations, and will have in-patient case responsibilities involving primarily companion animals. Both medical and surgical case management are involved.

**Faculty Contact: Drs. Cuddon and Klopp**

9. **Oncology**: Oncology enjoys the benefits of a large and varied caseload and dedicated owners. Students will have the opportunity to evaluate, diagnose, and manage relatively complex cases utilizing skills and knowledge in all aspects of internal medicine, surgery and radiation therapy. In addition, the student will have the opportunity to explore issues in the areas of the human-companion animal bond and pet loss. The service will generally be staffed with board certified internists, oncologists, radiation therapists and surgeons.

**Faculty contact: Drs. Lana, Withrow, Ehrhart, Worley, Thamm**

10. **Clinical Ophthalmology** This elective is designed to provide the student with an introductory experience in clinical ophthalmology. The student will participate in-patient receiving and ocular surgery. A strong emphasis will be placed on the mastery of examination and diagnostic tests (i.e. biomicroscopy, gonioscopy, ophthalmoscopy, tonometry and ocular surface cytology). Specific rounds times will be scheduled to cover entries of hospitalized animals. Weekend duty will be required as indicated by the caseload. In order to allow an equal opportunity for all interested students to take this rotation, repeat rotations will generally be discouraged.

**Faculty contact: Drs. Powell and Gionfriddo**

11. **Small Animal Community Practice** This rotation is designed to provide the student with an opportunity to evaluate typical cases seen in private practice. The schedule includes preventative health appointments, non-referred, non-emergency medical appointments, elective surgeries and dentistry procedures. Emphasis is placed on quality medicine, efficient case management and client education.

**Faculty contact: Drs. Ruch-Gallie, Torres and Weir**

12. **Small Animal Medicine** This elective is designed to provide the student having a special interest in small animal medicine with an opportunity to gain additional experience, training, and confidence in that field via referral/more complicated internal medicine cases. The student will participate in teaching rounds, patient and emergency receiving and will have in-patient case responsibilities.

**Faculty contact: Drs. Lappin, Twedt, Macy, Dow, Webb, Lunn, Dowers, and Veir**

13. **Small Animal Soft Tissue Surgery** This elective enables the senior student to become involved with a variety of in-depth referral-type cases. The student will participate in patient evaluation, diagnostic work-up, rounds discussions, emergency after-hours coverage of surgical patients and client communication.

Surgical cases will generally be abdominal, thoracic, cardiovascular and reconstructive. Surgical manipulation by students will involve mainly assisting with the approach and surgical manipulation required to perform the procedure. Primary hands-on surgical manipulation will be case dependent but will generally include closure of non-critical cases.

**Faculty contact: Drs. Monnet, Seim, and MacPhail**

14. **Small Animal Orthopedic Surgery** This elective is designed to provide the student having a special interest in small animal orthopedic surgery with an opportunity to gain additional experience, training, and confidence in that field via referral/more complicated cases. The student will participate in teaching rounds, patient and diagnostic work-ups and will have in-patient case responsibilities.

**Faculty contact: Drs. Egger and Palmer**

15. **Small Animal Critical Care (CORE)** This rotation is designed to provide the student having a special interest in Critical Care with an opportunity to gain additional experience, training and confidence. The student will participate in all of the activities of the Critical Care Unit on a schedule that will permit maximum contact with senior staff and skilled technician personnel. The students generally will not be given extra duty assignments such as night duty. Special effort will be made to provide the elective student more difficult and challenging cases.

**Faculty contact: Drs. Hackett and Campbell**

16. **Dermatology** The Dermatology service will generally see outpatients 4 days of each week. Emphasis will be placed on a problem-oriented approach to the diagnosis and therapy of dermatologic disorders in all species (including large animals). During the course of the week, clinical case exposure may also be augmented through the presentation of teaching slides.

**Faculty contact: Drs. Rosychuk and Zabel**

17. **Anesthesia (CORE)**: Students in this rotation will perform physical examinations and pain assessments, examine laboratory data, and consider patient history and comfort in creating anesthesia and peri-anesthetic pain management protocols. Students will gain competence in assessment of anesthetic depth, use and interpretation of anesthesia monitoring, and various technical skills including, but not limited to, venous catheterization and endotracheal intubation. Students will be expected to understand the various advantages and disadvantages of available anesthetic and analgesic drugs as they pertain to each individual patient's underlying pathophysiology.

**Faculty contact: Dr. Mama**

18. **Diagnostic Imaging (CORE)** Students in this rotation will review basic principles of imaging technique and insure a working knowledge of imaging equipment. They will also become more adept in animal positioning for radiographic examinations, to critique technical factors on finished radiographs by technologists and radiologists. To become more proficient at radiographic and sonographic interpretation.

**Faculty contact: Dr. Richard Park**

### **ELECTIVE ROTATIONS**

**Argus Institute for Families and Veterinary Medicine**; "Communicating with Pet Owners". The purpose of this one week rotation is twofold:

1. To develop effective clinical interviewing skills.
2. To provide opportunities for client interactions to enhance client communication skills, particularly related to end of life discussions, decision making, and highly emotional situations.

By completion of this rotation, students will be able to:

1. Utilize effective communication skills in a variety of settings including:  
Stabilizing a person in crisis.  
Providing basic grief education.  
Facilitating decision making processes.  
Conducting sensitive client present euthanasia procedures.  
Following up with clients and staff as appropriate.  
Providing supportive, constructive and descriptive feedback to others.
2. Reflect on their clinical interview performance and identify areas of strength and areas for further development.
3. Interact with clients in person, by telephone, and with a simulated client in a communication skills laboratory.

This rotation is offered 6 - 8 times per year with a current enrollment capacity of 4 students per offering.

**Faculty contact: Jane Shaw**

**Zoological Medicine** This elective is designed for students who wish to gain clinical experience in the medical/surgical management of caged birds, reptiles, small mammals (ferrets, rabbits, rodents) and wildlife species. Students will learn proper restraint and physical exam techniques of species commonly seen in a small animal/exotic practice. Students will formulate diagnostic and therapeutic plans, come to understand some of the problems of maintaining captive wildlife, and become aware of the ethical and legal considerations involved. Duties will include regular outpatient clinics for pet animals, in-patient responsibilities for pets and local wildlife as well as medical/surgical management of birds in the Rocky Mountain Raptor Center. Trips to regional zoological parks and aquaria, aviaries and rehabilitation facilities may be part of the students clinical experience

We offer a one or two week rotation. However, the two-week rotation is ideal due to the tremendous breadth and scope of the clinic. In the first week, students will concentrate on basic restraint, physical exam and management techniques. During the second week, our emphasis will be on decision-making, formulation of diagnostic and therapeutic plans and surgical techniques. Students will be encouraged to make independent decisions regarding the care of their patients and take as much responsibility for patient management as possible. Rounds are an integral part of the rotation during which we will discuss different approaches to clinical problems and patient management.

**Faculty contact: Dr. Campbell and Johnston**

**Harrison Memorial Hospital:** This large veterinary hospital in Denver is staffed by 5 veterinarians and has a yearly caseload of approximately 41,640. Approximately 33% of the cases are presented for ovariohysterectomy or castration. This is a two-week elective rotation. The students are provided living quarters at the Harrison Memorial Hospital and see both medicine and surgery cases.

**Faculty contact: Dr. Garry**

**Denver Dumb Friends League:** This experience gives the student the opportunity to perform a large number of spays, neuters and vaccinations, and to work with Shelter Medicine interns and DDFL staff veterinarians to see other types of typical shelter medical cases. Students may also attend medicine and surgery topic rounds, journal club, and major case reviews once weekly. The rotation is for two weeks and the student must commute or arrange for his or her own housing.

**Faculty contact: Dr. Lappin**

**Banfield Animal Hospital:** Banfield Pet Hospitals: Banfield, The Pet Hospital, is a large, national network of small animal hospitals, primarily located within PetSmart stores. Our hospitals are progressive, well-equipped clinics which emphasize quality medicine and compassionate care. Externs will not only learn the basics of small animal clinical practice, but will also be exposed to the business side of veterinary medicine. The Banfield externship is a well-defined, objective-driven experience where students will shadow one or more veterinarians as a 'student doctor' and be involved in all aspects of patient examination, diagnostics, treatment and planning.

You can find out more about our hospitals and locations by visiting [www.banfield.net](http://www.banfield.net). Hospital selection will be based on the Extern's area of interest and practice availability. Externs will be provided a stipend

of \$200/week to help with travel or housing expenses.

**Contact: Dr. Kimberly A. Pope-Robinson ([kimberly.pope-robinson@banfield.net](mailto:kimberly.pope-robinson@banfield.net))**

**Pet Physiotherapy and Comprehensive Pain Management:** This rotation is designed to provide an introduction to physical therapy concepts and the history of veterinary physiotherapy/rehabilitation. Key concepts will be introduced during the didactic lectures that are scheduled, and as much time as possible will be devoted to demonstrating and (if possible) practicing the techniques and modalities utilized in pet physiotherapy.

Students will be guided in the use of a pain scoring system to help determine how best to create a comprehensive approach patients who will benefit from physiotherapy (several pain scoring systems will be utilized)

Following introductory lecture time about various physiotherapy modalities -  
- physical agent modalities, tissue mobilization, emerging modalities - - the students will have an opportunity either to practice techniques on clinic-owned pets, or to participate as the techniques are applied to client-owned pets.

Part of the lecture material will cover the key concepts of treatment for various patient groups - - orthopedic surgery patients, neurologic patients, chronic pain patients, acute pain patients. Likewise, there will be time dedicated to learning about conditioning and injury prevention in athletic dogs.

One critical area that will be covered is understanding the role of pharmacology in comprehensive pain management strategies which include physiotherapy. Students will be introduced to crafting a multi-modal pain management strategy for both acute and chronically painful pets.

Finally, time will be spent learning how to adapt and apply physiotherapy techniques to cats. Also, students will be encouraged to think through how they might introduce physiotherapy into a general, primary-care veterinary practice.

Learning Objectives:

Introduction to physical therapy concepts and the history of veterinary physiotherapy/rehabilitation

Introduction to using a pain scoring system to help determine how best to create a comprehensive approach patients who will benefit from physiotherapy (several pain scoring systems will be utilized)

Introduction to physiotherapy modalities - - physical agent modalities, tissue mobilization, emerging modalities

Introduction to concepts of treatment for various patient groups - - orthopedic surgery patients, neurologic patients, chronic pain patients, acute pain patients

Introduction to concepts of conditioning and injury prevention in athletic dogs

Understand the role of pharmacology in comprehensive pain management strategies which include physiotherapy

Applying physiotherapy techniques and modalities to cats

Introducing rehabilitation techniques into general practice

Student Objectives:

Students will learn how to do a practical pain assessment on dogs and cats

Students will learn how to apply a variation of the Visual Analog Scale for scoring pain in dogs and cats

Students will learn how to apply the CSU Pain Scales for cats and dogs (Hellyer, et al)

Students will gain an introductory understanding of the physical modalities associated with physical rehabilitation, including the delivery of several modalities

Students will be able to introduce basic physiotherapy techniques into a practice situation in which they find themselves

Expectations:

It is expected that students will bring an enthusiastic attitude to this unique learning opportunity. The information delivered in the lecture setting will be reinforced and complemented by hands-on/wet-lab and "real world" clinical cases. Students will be invited to discuss physical examination findings, pain assessments, and historical information about specific patients (these discussions will typically take place outside of the examination room in order not to take too much of a client's time).

Students are expected to present a professional and compassionate demeanor, and to respect client and patient confidentiality. Students will have an opportunity to apply some of what they learn on both clinic-owned animals as well as client-owned animals, under the direct supervision of Dr. Downing.

**Faculty Contact: Dr. Robin Downing (drrobin@frii.com)**

**Practice Elective** Suitable private practices have been identified to take elective students. A practice for which a student receives credit must be approved by the college and have liaison with college faculty. Prior approval is required, see Debbie Liptak.

**Faculty contact: Dr. Garry**

Large Animal Track students can substitute up to two weeks of the following special projects for Food Animal Field Service requirements. General Track students can substitute one week of the following special projects for one week of Food Animal Field Service. Students wishing to register for special projects and/or substitute them for Food Animal Field Service must arrange this with Dr. Mortimer before turning in their elective request sheets. **DONT WAIT UNTIL THE LAST MINUTE!**

- a. **Calving Management** An opportunity to spend two weeks during calving season to help the ranch staff with calving heifers. Opportunity will be given to assist delivery of calves and perform C-sections when necessary. The management considerations necessary in handling calving problems and caring for the neonate

will be discussed in a practical setting and students are placed in the position of making decisions that help them better understand a producer perspective. Do not look at this as a surgical rotation. Assistance, manipulations, c-sections, and fetotomies are done on an as needed basis by the students. Limited enrollment. Offered 4 weeks in mid March- April. This is a 7-day a week rotation. Meals and housing will be furnished on location. Students are expected to cover expenses enroute. Transportation provided by CSU unless unique arrangements are needed. Prerequisite of junior OB lab.

**Faculty contact: Dr. Mortimer**

- b. **Ruminant Breeding Soundness** (Bull) One week of extensive bull or ram testing. May require absence from VTH/Fort Collins during this week.  
**Faculty contact: Dr. Mortimer/Knight**
- c. **Beef Cattle Branding and Castration** This is a one week experience where participating students will see and learn the techniques of castration, dehorning, vaccination, and branding used in typical ranch operations. In addition, opportunity will be provided for discussion of health management practices at this unique time in the cow-calf production cycle.  
**Faculty contact: Dr. Mortimer**
- d. **Beef Nutrition**. This is a week of nutritional training designed to allow the student to broaden their nutritional knowledge. It is not designed to make a nutritionist out of you. This will be offered according to demand.  
**Faculty contact: Dr. Mortimer**
- e. **Beef Cattle Pregnancy Evaluation** This is a one-week experience in beef cattle pregnancy evaluation. In general, this experience is away from the university so plan accordingly.  
**Faculty contact: Dr. Mortimer**
- f. **Beef Cattle Production Management** This is a week of analysis of selected production units including SPA evaluation and enterprise evaluation. Available field work is used to supplement concepts.  
**Faculty contact: Dr. Mortimer**
- g. **Lambing Management**- This rotation will consist of daily trips from the CSU VTH to a 3,500-head sheep ranch located just north of Cheyenne, Wyoming. Students and instructors will participate in periparturient health management for the flock, including medical and surgical treatments, dystocia management and postpartum care, and neonatal lamb care. The day – to – day medical tasks will vary according to the “caseload,” but year-round flock health management, nutrition, and toxicological concerns for a range lambing operation will be covered as well. While supervision will be provided, students will be expected to make medical decisions and perform treatments. The ranch manager may request assistance in other health management practices, such as castration, tail docking, and vaccination of the flock.  
**Faculty contact: Dr. Van Metre**
- h. **Beef Cattle AI Management** This rotation is designed for the student who wants to participate in all aspects of heifer management related to estrus synchronization, heat detection, and Artificial Insemination on a large ranching operation. Students will have to have completed the AI course on campus as a prerequisite. In addition, riding skills are a plus but not mandatory. Discussion will occur on the economics and evaluation of protocols beyond those used on the ranch. Students will be given approximately 40 head of heifers to AI as part of the rotation.  
**Faculty contact: Dr. Mortimer**

## **SEASONAL ELECTIVE ROTATIONS**

**Equine Reproduction (spring)-2 week rotation** Students will spend the entire week (Mon-Sun) at the Equine Reproduction Laboratory on the foothills campus and should be available at 7:30 am. Students will be expected to participate in all activities at the laboratory. While at the laboratory, students should observe and participate to become knowledgeable or proficient in: collecting, evaluating, and insemination of semen; handling stallions and mares in teasing and breeding; palpation of mares; embryo transfer; reproductive evaluation of stallions and mares and reproductive examination with ultrasonography; endometrial biopsy; uterine culture; maintain records; and proper routine health care of horses.

**Faculty contact: Dr. McCue and Carnevale**

## Problem-Based Learning - VM 796F

**Course Coordinator:** Dr. Regina Schoenfeld-Tacher, Ph.D.  
Office: Physiology 105, Office Phone: 491-6008, e-mail: reginast@colostate.edu  
**Office Hours:** By appointment

### Course Philosophy:

This course is problem-based and student-centered! As a DVM, you will have to be an accomplished problem-solver of your patient's problems. You will also have to be a self-directed learner your entire professional life, as knowledge in the field of veterinary medicine will change and you will meet new and unexpected challenges. This course will help prepare you for clinical practice, by allowing you to develop both client communication and diagnostic skills in a safe environment.

### Course Objectives:

This course is designed to give you an opportunity to practice your clinical reasoning and problem-solving skills, by simulating the process of caring for a patient. Your facilitator will provide guidance, but NOT content information, as your team works through the problem. You will determine what knowledge you need in order to understand the problem (learning issues), and will then be responsible for acquiring the information and applying it to the case.

### Student Evaluation:

This course is graded S/U and no ranks are assigned. **Attendance is required.** The table below summarizes the minimum points required for each letter grade. Please note that **ALL requirements must be met in order to obtain the listed grade.** In order to pass the class, you must:

1. Complete and electronically submit **three** "Case Activities" to your facilitator. Each assignment will be due approximately one week after your group completes a case. Your facilitator will announce the exact deadlines in class. Activities vary from case to case, and may include things such as a SOAP, fee estimate, literature search and/or dismissal/client education form. Each activity is worth 10 points.
2. Obtain a total score of 60 points or greater on your course assessments. Students with a total score between 59 and 54 will receive a "U" grade, and students with a total score of 53 or less will receive an "F" grade.

	"S" Satisfactory	"U" Unsatisfactory	"F" Fail
Case Activities	22 points or greater	16 – 21 points	15 points or less
Facilitator Evaluation of Student Performance	60 points or greater	54 – 59 points	53 points or less

### Technical Information:

The materials for this course have been placed in RamCT. When you first login, you will see links to each of the PBL cases for Spring semester (your group will probably not cover all of them!), as well as a link to a page of printable VTH forms and a link to the course bulletin board.

1. PBL Case pages: When you are in a case, you will only be able to see those icons that have been made available to your group. Initially, this will consist of the animal's picture. Your facilitator will reveal more icons as your group requests laboratory and/or diagnostic tests, or as other materials become appropriate.
2. VTH Forms page: This page contains printable (pdf) versions of commonly used medical records forms. You will most likely want to bring at least a blank history/PE form with you each time your group starts a new case, unless your group leader tells you otherwise.

3. Bulletin Board: This is an area for you to post information you would like to share with your group-mates.

### **Assignment Submission Instructions**

Note: You will need to use your own software application (i.e. Microsoft Word) to complete assignments. When naming an assignment file, please be sure to follow the instructions specified in each case. RamCT does not recognize file names with spaces, or characters that are not numbers or letters.

Submitting an assignment involves two steps:

1. upload the file from your computer to RamCT
  2. submit the file for grading.
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1. Click the icon for the assignment you want to submit, on the main page for the particular case (e.g. "Case Assignment – Nikita")
  2. Follow the on-screen instructions to complete your assignment.
  3. Click the **Assignment Submission** icon.
  4. Type in any comments in the textbox, then click the **Add Attachments** button.
  5. Click on the icon for **My Computer** in the pop-up window
  6. **Browse** for the appropriate file(s), and click "open"
  7. Once all of your files are listed, click **OK**
  8. To submit the completed assignment, click the **Submit** button.
  9. A confirmation box appears asking you to confirm the procedure.
  10. Click **OK**. You will see a message confirming that you have successfully uploaded your assignment.