

## COURSE SYLLABUS

### **Livestock Mixed Practice** **CVM 7021 (Livestock II – Meat and Fiber)** 2 Credit Hours/2 week course

**Course Director:** Maisie E. Dawes, DVM, PhD, DACVIM  
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**Phase II Director and Livestock Course Co-Director:** Wendell J. Cole, DVM, DACT  
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**Course Instructors and Locations:** **Dr. Gary Rupp**, Director and Professor, Great Plains Veterinary Education Center (GPVEC), Clay Center, Nebraska 65933; **Dr. Dee Griffin, DVM, MS** (Feedlot Production Management Veterinarian and Professor), **Dr. Jeffery Ondrack, DVM** (Beef Cattle Clinical Veterinarian).

#### Course Time and Location:

**Livestock II** will take place at the Great Plains Veterinary Educational Center (GPVEC) in Clay Center, NE. **Times and location for activities will be dictated by the Director/organizers at GPVEC.** On the Sunday afternoon/evening prior to the start of the course, students will depart from the Ontario International Airport, Ontario, California and travel by air to the Omaha Airport, Omaha, NE, from which they will be transported to Clay Center by a Chartered bus. Western University of Health Sciences, College of Veterinary Medicine (CVM) will bear the cost of transportation. Any deviation from the travel arrangements provided by the College will be **paid for by the student**. Since students **are expected to avail themselves to the schedule outlined by the faculty at GPVEC**, they will need to work out a mutually agreed upon schedule to ensure that 50% of the student's time during the 2 week period is protected for their engagement in group or individually-determined and executed educational activities. The remaining 50% of the students' time should be devoted to working directly on GPVEC coursework. /Students should also be prepared to participate in 'after hours' emergency duties, a time more critical for clinically- related activities. Each student is responsible for setting aside additional study time, if necessary, to **resolve their individual learning issues**. (See <http://www.westernu.edu/xp/edu/veterinary/time.xml> on Black Board.)

#### Course Description: (Course Purpose, aims/goals)

The goal of this course is to educate students about production systems involved in the rearing of beef cattle, sheep and swine; and the practice of food animal medicine and surgery. Students should also carry out independent studies in goat and camelid production, medicine and surgery. Major emphases will be on herd health preventive programs, population medicine, record analysis, facility evaluation and animal welfare issues. The curriculum will also focus on the students' active participation in individual animal medicine, in the diagnostic and therapeutic management of patients including physical diagnoses, patient care and therapeutic problem-oriented decision-making opportunities that will primarily occur while on emergency service. Core curricular competences related to reproductive management and evaluation, surgical and obstetric techniques, may be addressed given the season during which the course is taken (The American College of Theriogenology (ACT); April 2007 –see the list of Resources, below). **Necropsy assignments** are typical for this course and will be performed in designated teams. See additional information under 'Assessment'.

Students are expected to continue building basic science knowledge in a clinical setting and develop an understanding of the clinical sciences through clinical experiences and self-directed study.

#### Learning Objectives: (Supporting The Course Purpose)

#### At the end of this course, students will be able to:

##### **A. Case Management, Patient Care and Client Education:**

1. Assist the GPVEC faculty and staff in attending to the immediate needs of an individual animal or a herd-related problem- cow/calf, beef, sheep or goat feedlot operation, sheep or goats on range, confinement swine operation- (take a history, assess management practices in relation to animal husbandry and production, describe how nutrition may impact disease in an individual animal and/or herd, as well as its effects on growth, production and reproduction).
2. Correctly identify the zoonotic risk and mode of transmission of specific diseases; correctly identifying diseases that are deemed reportable and their respective classification ('**emergency**', '**regulatory**' or '**monitored**'); correctly advise clients of the appropriate response to this finding and appropriately communicate the information to the federal veterinarian.
3. Evaluate the body condition of animals, **using the nationally approved scoring system** for the respective species.
4. Utilize/Demonstrate restraint techniques (physical [knot ties included] and/or chemical) typically used for the safe, appropriate and humane handling of animals for clinical evaluation or/and treatment.
5. Determine the most appropriate route and rate for the administration of fluids given the volume and the situation at hand; determine the most appropriate route of administration of therapeutic/anesthetic agents given the preferred

onset and duration of action (subcutaneous/ intramuscular/intra-peritoneal/OR oral).

6. List the preferred sites for intramuscular and subcutaneous injections in light of policies pertaining to Beef Quality Assurance.
7. State the indications for performing minor surgeries and/or their bases (optimal age/stage of production/research) in accordance with the principles offered by the AVMA (restraint and anesthetic techniques) and describe how to perform these surgeries. For example: castration, Buhner stitch procedure and epididymectomies, umbilical herniorrhaphy, dehorning etc.
8. Develop/evaluate a herd health program for any of the species encountered in this course, bearing in mind the production system. Reference must be made to vaccination and/or parasite control.
9. Develop a working knowledge of relevant diagnostic tests and procedures and the indications for each as it relates to common diseases of swine, goats, sheep, cattle and camelids. **Although the latter species is NOT encountered during this course, knowledge of their care is required given their growing population in the USA and worldwide** (see below):

**Common conditions include but are not limited to:**

**Swine:** Atrophic rhinitis; Porcine parvovirus; Salt poisoning ; Porcine Reproductive Respiratory Syndrome (PRRS); Transmissible Gastroenteritis (TGE); Swine dysentery; Swine erysipelas; Postweaning multisystemic wasting syndrome; Edema disease...

**Cattle:**; Vagal indigestion; Polioencephalomalacia (PEM); Thromboembolic Meningoencephalitis (TEME); Common causes of lameness; Listeriosis; Downer cow syndrome; Post parturient hemoglobinuria...

**Sheep:** Ovine progressive pneumonia; Caseous lymphadenitis; Listeriosis; Contagious ecthyma...

**Goats:** Caprine Arthritis Encephalitis (CAE); Polioencephalomalacia (PEM); Caseous lymphadenitis; Listeriosis; Contagious ecthyma...

**Camelids:** Downer syndrome (Heat stroke, Meningeal worm infection)...

**All species:** Metabolic diseases (Hypoglycemia; Hypokalemia; Hypomagnesemia, Preganancy toxemia); Grain overload; Infertility and abortifacient-associated diseases; Common causes of lameness; Intoxication/poisoning; Agents of Respiratory disease (including shipping fever complex in cattle); Gastrointestinal and other parasites including aberrant infections; Dystocia; Neurologic diseases; Urolithiasis; Pyelonephritis; Septicemia; Viral and fungal infections; Clostridial infections; Diseases associated with nutritional deficiencies/excess; Salmonellosis; Hemolytic diseases; Vesicular diseases; Enteropathies Spongiform encephalopathies; Salt poisoning ; Choke; Polioencephalomalacia (PEM); Ocular disease...

The concepts associated with the physiologic response to hemorrhage, shock, hypothermia, hyperthermia, allergic reactions etc. should not be overlooked, especially if involved in the pathophysiology of relevant diseases. Don't forget trauma.

10. Obtain and appropriately submit biological samples; select and /or perform related ancillary tests where possible, and interpret their results.

**Tests should include but not be limited to:**

- a. Complete blood count (CBC); serum biochemical profile (SBP)
- b. Packed cell volume/Hemoglobin (HGB) determination
- c. Fecal flotation/smear; preputial wash, semen evaluation, vaginal swab, uterine biopsy.
- d. Urinalysis
- e. Gram stain, bacterial culture and sensitivity, and isolation
- f. Serology, (sample population and sample size determination, interpretation of results)
- g. Necropsy. Student groups participating in a field necropsy must communicate the morphologic findings (in the form of a necropsy report) of their first (1<sup>st</sup>) necropsy experience to **Dr. Tracey McNamara, DVM, DACVP**. Please use the enclosed format of a Post Mortem Report (**Appendix D**), prepared by Dr. Ana. Alcaraz, DVM, PhD, DACVP. For help with descriptive terminology, you may access the '**Pathology Descriptive Terminology and Glossary Homepage**' a University of Pennsylvania resource located on **Blackboard** in the **Pathology Folder** in the **WesternU CVM VIRTUAL RESOURCE CENTER** under Course Documents. Laminated copies of selected sections of King, Dodd, Newson and Roth's THE NECROPSY BOOK have also been made available in the Necropsy room at Clay Center. Additionally, a PDF version of one of Dr. Ana. Alcaraz's PowerPoint presentations demonstrating the ideal approach to performing a post mortem on ANY species should be available on the server at Clay Center. (Please ask Dr. Gary Rupp, the Director if you have any difficulty accessing any of these on-site resources.)
- h. Rectal palpation for the examination of abdominal viscera and evaluation of reproductive organs.

11. Create or design treatment protocols on the basis of physical examination findings diagnostic test results.
12. In all instances, self-study exercises should enable the student to understand and describe not only the clinical considerations, but also the anatomy, pathophysiology and other basic science issues relevant to each disease condition.

## B. Drug Usage and Prescription policies in Food Animals

1. Describe the conditions/criteria that must be met to establish a Veterinarian-Client/-Patient Relationship.
2. Discuss the components of and/or create a valid label for dispensing veterinary prescription drugs to food animal clients.
3. State the public health implications such as pre-slaughter withdrawal or milk withholding times associated with drug use in food animals.
4. Discuss the role of federal/governmental agencies in Food Safety/Public Health.
5. Describe the role of FARAD in Food Safety/Public Health.
6. Define the terms under which extra-label drug use is permitted in food animal patients based on the guidelines set by the AVMA, Animal Medicinal Drug Use Clarification Act (AMDUCA).

## C. Epidemiology, Animal Welfare and Biosecurity

1. Describe the principle of clinical/field trials in veterinary medicine and explain how results are applied to group situations; describe how individual animal data is collected, processed and analyzed to measure performance against target levels for culling, disease occurrence, growth, production, reproduction and profitability (This should include the use of at least one software program).
2. Describe the concept of the National Animal ID Program, the adapted strategies; successes and failures.
3. Use basic economic concepts such as production principles, cost functions and economic choices, and decision analysis.
4. Define and interpret basic epidemiological concepts and terminologies.
5. State the concepts of, and the concerns raised regarding the relationship between livestock productivity and animal welfare.
6. State the components of a biosecurity plan.
7. Design a biosecurity/isolation program that addresses the introduction of new animals and/or the treatment of sick and injured animals in a livestock operation - the goal being to reduce the importation of new, or the spread of existing disease (This may include vaccination, parasite control, nutrition, feed and water quality, sanitation, housing, waste disposal and other environmental concerns).

### Course Policies and Procedures: (Attendance/Dress Code etc. – specific to course)

**Course Involvement** – Attendance and participation is mandatory, this in order to optimize the educational experience of all students. Students are expected to participate in the practice's regularly scheduled activities being always cognizant of information which is typically communicated by the preceptor. Failure to participate fully in these activities will require 'making up' for missed time, and may, at the discretion of the Course Director and Preceptor, necessitate repeating the course during the summer or other off-time. Both attendance and the level of student participation will contribute to each student's final grade for the course. In the event of an emergency situation, that either interrupts the course or limits participation, the student should contact the course director, and the clinical preceptor, as soon as possible. (See contact information for course directors above). Information conveyed should include the nature of the emergency (general descriptions are allowed in the case of a deeply personal event), the anticipated period of absence (if known), and contact information, while away. An Absence request form (see 3<sup>rd</sup> Year Clinical Courses Handbook at <http://www.westernu.edu/xp/edu/veterinary/3rd.xml>) must also be completed and submitted to the Clinical Preceptor and Phase Director (Dr. Wendell Cole) for approval signatures. Ms. Denisha Jenkins, Administrative Assistant for Clinical Programs, must also be informed to facilitate documentation, in the College database.

**Students with special needs** - Students in need of disability accommodations are encouraged to contact the Center for Disability Issues & the Health Professions (CDIHP) office: 909- 469-5380). This office will coordinate reasonable accommodations for students with disabilities, **ONLY IF** documented *prior to the beginning of the course*.

**Professional behavior** – In addition to being preparatory for future interactions within our profession, professional behavior is conducive to learning and is expected of all course participants. Professional behavior includes, but is not limited to, tolerance of others' beliefs and opinions, arriving on time for engagements, and being prepared and appropriately dressed.

#### **Attire acceptable for this course:**

1. Professional dress typically includes non-slippery, water impermeable boots or shoes with shallow treads (for easy cleaning and disinfecting), and coveralls. Pullover boots work well in dairy settings. **Steel toed shoes carry with them an inherent risk and are therefore not considered optimal.** Since clothing is likely to be easily soiled, in order **to maintain farm biosecurity**, you will **need to change into a clean pair of coveralls between calls**. Therefore, plan on several changes of clothing and coveralls during each week. If there needs to be a change to this general rule, it will be communicated by the Preceptor.
2. Appropriate clothing that will protect from environmental extremes, dependent on the season of the year. This could include head wear (broad- rimmed hat or cap with a visor or bill), sunglasses, sunscreen; or forms of rain or cold weather protection (raincoats, jackets, warm up suits etc.)
3. **Do not** wear loose or dangling jewelry (rings, hooped or drop ear rings, loose bracelets and necklaces). These may get caught on equipment or machinery, animals' hair for e.g. Hair should always be worn in a manner to prevent exposure to entrapment and injury.
4. Fingernails should be trimmed to fingertip length to prevent patient injury, during rectal examinations, and to allow adequate surgical scrubbing.
5. Implements include: Surgical scrubs, a large animal digital thermometer (with string attached), stethoscope, watch, pen light and hemostats.

6. Computers and communication links to remote resources are recognized as being integral to the educational/research experience.

**Honor code** – Each student's behavior and conduct is expected to comply with the policies laid down by the University and College. The policy can be viewed on the WU website <http://www.westernu.edu/bin/registrar/catalog-2007-08-cvm.pdf>

### **Lodging**

Students will be housed in a residence hall located on the grounds of the GPVEC and will have access to a full kitchen. They must however provide their own food. Laundry facilities are provided. For a more detailed description of the available amenities go to <http://gpvec.unl.edu/>.

### **Assessment:** (Grades/Rubric/Exam)

Student assessment is the responsibility of the course director but will incorporate the clinical preceptor's on-line evaluation. Overall, the assessment will consist of the following:

#### **1. 15% Clinical Preceptor Evaluation of Third Year Students (maximum, 36 pts)**

At the end of the first week of the course, each student is encouraged to meet with his/her Preceptor for a performance update using the **WEEKLY FEED-BACK FOR THIRD YEAR STUDENT** form (See **Appendix A; p. 6**). The information used at this sitting should be used to determine improvement measures for the upcoming week. At the end of the course, the Clinical Preceptor will be asked to complete an evaluation form which addresses student participation, clinical skill/ competencies, clinical prowess and professional conduct. The Clinical Preceptor will access the form on One45 (See **Appendix B; pp. 7 and 8**) – reproduced from page 40 of the 2008-9 Western University of Health Sciences CVM 3<sup>rd</sup> Year Clinical Courses Handbook; <http://www.westernu.edu/xp/edu/veterinary/3rd.xml>). Please note that the **WEEKLY FEED-BACK FOR THIRD YEAR STUDENT** form only bears a subset of the qualities which will be evaluated by your preceptor at the end of the course. Therefore it is advisable that you become familiar with both forms prior to the start of the course.

#### **2. 50% Summative examination (100 pts)**

All course objectives are subject to assessment in the summative examinations. In addition some material may come from case logs and board exam review questions. The exam will be administered on campus during the assessment week following each eight week block.

#### **3. 20%: Two (2) Written assignments 10pts;26 pts)**

Assignments for course 7020 (# 1 and # 2) are listed in **Appendix C**. They should be sent to the course director via e-mail, and will be evaluated using the respective rubrics on **pages 9 and 11**. All assignments must be submitted **no later than 8 a.m. Pacific time, Monday, following the completion of the course**. Assignment #1 is to be submitted as individual work. On the other hand, students are encouraged to work together on assignment #2; submit **one** finished product and receive **a common grade**. Each rubric should be used as a guide during assignment completion. Failure to complete assignments on time may result in up to a **15% point reduction**.

#### **4. 15% Case Log/Clinical Skills Documentation (10 points)**

Students are expected to document ALL cases seen during their course. . Please note, when performing the same procedure or treatment (eg. vaccinations/pregnancy evaluations) on several animals at the same site, only one entry needs to be made – noting the number of animals handled. If variable, all **breeds** should be noted. **If an animal within that group is identified as having an additional problem significant/unusual findings (mummified fetus, cystic ovaries, abscess, conjunctivitis etc.) AND/OR requires additional treatment, please exclude that animal from the original count/entry and enter the case separately, stating that 'the identified problem' was noted in 'animal X' during 'the routine' procedure...** A minimum of **three (3) LOGICAL differential diagnoses** and a **final or tentative diagnosis** -for the identified problem- **as well as subsequent treatment(s)**, should be entered in the appropriate columns. Please remember to identify the clinical competencies practiced/attained during these experiences using the drop down menu provided. This section will provides you with a record of skills performed and is used by the College to document clinical skills acquisition for accreditation purposes.

Reports should be submitted on-line **no later than 8 am Pacific time Monday following the completion of the course**). Failure to submit the case log by the deadline will result in an incomplete grade. Subsequent submission will result in a **10% deduction** of the final course grade.

#### **5. Pass/Fail Clinical Competency Assessment (A maximum of 9 out of 18 points extra credit will be awarded to each livestock course.)**

During the on-campus examinations, students will demonstrate their competence in clinical skills as outlined under **Learning Objectives**. Students who fail to attain at least 70% on their first attempt, will be required to repeat the sections missed during the examination given at the end of the subsequent block. **No points will be awarded towards the student's final grade at that stage.**

#### **6. Necropsy Report:**

Students will have the opportunity to improve their skills in preparing necropsy reports in assigned teams. Each group is expected to submit a group report, using the format presented in Appendix D, to Dr. Tracey M<sup>n</sup>Namara via e-mail –

[tmcnamara@westernu.edu](mailto:tmcnamara@westernu.edu).

### **7. Student Course/Preceptor and Site Evaluation**

All students must complete preceptor/site and course evaluations, upon completion of each CVM course. These evaluations are administered in the form of surveys and are conducted to gather student opinion and perception of course delivery and content, and faculty and/or course director performance. The goal of this data is to improve instruction throughout the College curricula, and survey outcomes assessment, an integral aspect of the College's internal review and accreditation process. Since this is a 'threshold' requirement, meaning, a student has not formally completed a course until his/her survey obligations are met, it is expected that each student will complete these surveys as scheduled. Failure to comply with survey obligations may result in the withholding of the final grade of the respective course. These evaluations are posted to each student's account in **one45**.

**Grading:** Grades will be assigned based on the cumulative score attained from the above assessment tools. The grading scale will be as follows:

A 90-100%

B 80-89%

C 70-79%

D 65-69%

U <65%

**Grading will not be on a curve. All scores of X.5 and above will be rounded up to the next whole number. Scores of X.499 and below will not be rounded up.**

### **Course Schedule:**

See Time and Location above

### **Resources:**

Blackboard will have various materials posted as reference. Several textbooks will also be useful; however this list is neither all inclusive nor exclusive. Students are reminded that learning in the third year continues to be self directed. Given the remote location or course sites, the following list is being suggested.

#### **Texts:**

1. Large Animal Internal Medicine, Smith, Elsevier;
2. Current Veterinary Therapy-FA Practice, Saunders;
3. Veterinary Medicine, Bailliere Tindall;
4. Techniques in Large Animal Surgery, Lea & Febiger;
5. Food Animal Surgery, Veterinary Learning Systems;
6. Large Animal Urogenital Surgery, Williams & Wilkins;
7. Current Therapy in Large Animal Theriogenology, Saunders;
8. Lameness in Cattle, Saunders; Herd Health, Saunders;
9. Diseases of Swine, ISU Press;
10. Goat Medicine, Lea & Febiger;
11. Medicine & Surgery of South American Camelids, ISU Press;
12. Clinical Biochemistry of Domestic Animals, Academic Press;
13. Livestock Feeds & Feeding, Prentice Hall;
14. Pathways to Pregnancy and Parturition, Senger, Current Conceptions, Inc.;
15. Veterinary Obstetrics and Gynecology, Roberts, Anatomy and Physiology of Farm Animals, Frandson, Blackwell Publishing;
16. Bovine Medicine, Andrews, Blackwell Publishing.
17. The competencies identified by the ACT were based on information derived from two surveys, the results of which were published in *The J Vet Med Edu* 33:140-144, 2006; and *The J Am Vet Med Assoc* 229:514-521, 2006.

### **Additional Resource Material:**

## ***Searching for Primary Literature for use in research papers -***

### **What is primary literature and why should you use it?**

Good laboratory write-ups often contain within the Introductions and Discussions (and sometimes the Materials and Methods), citations from the *primary* scientific literature. These articles present

*new* data and the researchers' views on what results mean. The use of such literature in the literature review process can provide compelling support for hypotheses *presented by you*, as well as support statements of facts that you may wish to establish. Good referencing of the *primary literature* is also useful in convincing the reader that your experiment has not been previously completed, and would truly offer data that is useful for addressing an important hypothesis. If nothing else, the proper use of *primary literature* indicates to your reader (**and grader!**), that you know, and understand the relevant experimentation that has been published on a topic to date. In the broad scheme of knowledge, *primary literature* is most reliable because it has been peer-reviewed, and thus is least likely to suffer from egregious errors of fact, shady statistical procedures, and outrageously vile opinions.

Here is a general ranking of sources, starting with the most desirable (*truly* undesirable sources are in grey):

**primary articles in journals/periodicals (e.g., *Evolution, Cell*)**

**primary articles in books**

**review articles in journals/periodicals**

**book chapters**

**textbooks**

**articles in popular-press periodicals (e.g., *Natural History, Scientific American*)**

**articles in magazines (e.g., *Vogue*)**

**newspaper articles**

**laboratory manuals**

**product manuals**

**brochures**

**lecture notes**

personal communications (e-mail, telephone, etc.) with scientists

web sites, rumors, hearsay, voices in your head

outright fabrications

The above article was found at Web Source: <http://www.swarthmore.edu/NatSci/cpurrrin1/litsearch.htm> and has been modified for this purpose.

**Appendices: Student Evaluation Form, Assignments and Assessment Rubrics**

**Appendices: Student Evaluation Form, Assignments and Assessment Rubrics**

Appendix A: This evaluation should be initiated and presented to the Preceptor by the student and serves to inform the student of their performance prior to final assessment.



**WEEKLY FEED-BACK FOR THIRD YEAR STUDENT**

COLLEGE OF VETERINARY MEDICINE  
WESTERN UNIVERSITY OF HEALTH SCIENCES

Name of Student: \_\_\_\_\_ Name of Preceptor: \_\_\_\_\_

Date: \_\_\_\_\_

Instructions: This is a simple form intended to provide weekly feed-back to students. Please check the appropriate box which indicates the student's level of performance for each skill being evaluated.

**E v a l u a t i o n o f P e r f o r m a n c e**

Skill being evaluated	Adequate Performance For 3 <sup>rd</sup> year student	Area of Concern-Needs Improvement	Warning, insufficient at this point, <u>risk of failing</u> (See Comments below)
Knowledge base	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Application of knowledge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Technical skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Problem solving skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Professional conduct	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Communication skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments (please elaborate on any "warnings" signs evident when evaluating skill competence; use additional pages if needed):

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Preceptor must fill out the "Low Performance Evaluation" form in one45 and the student must email the completed form to the course director.

## Appendix B: Clinical Preceptor End of the Course Student Evaluation Form



Western University College of Veterinary Medicine Third Year DVM Program

Name of Preceptor \_\_\_\_\_

Name of student \_\_\_\_\_

Period being evaluated (*please give beginning and ending dates for course time*) From: \_\_\_\_\_ to \_\_\_\_\_

Clinical Site: \_\_\_\_\_

## Clinical Preceptor Evaluation of Third year Student

## Livestock Courses- 2009- 2010

**Proficiency rating:** The following rating scale/terms, as defined, are to be used to evaluate student's performance **at the end of the two-week course:**

**1-Rarely:** Very problematic aptitude level, area of grave concern. Performance is consistently poor for a 3<sup>rd</sup> year veterinary student.

**2- Occasionally:** Performance needs improvement. Student has not yet gained personal command of the skill.

**3- Most of the time:** Performance of skill meets requirements: it represents good, solid performance, done most of the time as normally expected of a 3<sup>rd</sup> year student.

**4- Almost always:** Performance of skill often exceeds expectations, is consistently excellent (i.e. above average) for a 3<sup>rd</sup> year veterinary student

	N/A	Rarely 1	Occasionally 2	Most of the time 3	Almost always 4
1) The student can handle and restrain the animal in order to perform a physical exam.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2) The student can obtain an adequate history (as expected from a third year veterinary student)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3). The student was able to list/ refine differential diagnoses (as expected from a third year veterinary student)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4) The student kept accurate records (SOAPs, forms, etc) when asked.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5). The student demonstrates a working knowledge of agricultural terminology and management systems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6) The student's conduct was appropriate and professional. (Dress, on time, language, concern for	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

animal welfare, etc).					
7) The student exhibited appropriate problem solving skills and approach.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8) The student was involved, interested and self directed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9) The student demonstrated appropriate communication skills (with doctors, staff, and possibly clients).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10) The student demonstrated and applied basic knowledge and technical skills for appropriate species and appropriate for his/her stage of development.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

\* Did you have an opportunity to meet with this student to discuss their performance? Yes No

## Appendix C: Assignments and Assessment Rubrics

### #1. Common Infectious Diseases

Write 4 multiple choice questions, each with a minimum of 4 possible choices (A, B... for e.g.), covering infectious diseases of any of the livestock species, including camelids, covered in the list of learning objectives. *Although not necessarily for the same disease, each of the following subject headings must be covered throughout: the etiologic agent of a disease of interest; the mode of transmission; the epidemiology of the disease; clinical signs; and treatment and control measures of a disease of interest.* When making reference to etiologic agents, scientific names must be appropriately written (**Genus species or Genus species**) and the **name of the disease must** be disclosed either within the question itself or in the form of a Heading. A minimum of **2 complete** peer-reviewed references (see Additional Resource Material, **p. 6**) must be provided for each question, using the format outlined by The National Library of Medicine (NLM) - AMA Manual of Style<sup>(13)</sup> or the Uniform Requirements for Manuscripts Submitted to Biomedical Journals: [http://www.nlm.nih.gov/bsd/uniform\\_requirements.html](http://www.nlm.nih.gov/bsd/uniform_requirements.html) Failure to give proper credit to those whose work you used during the completion of your assignment constitutes PLAGIARISM, an example of **academic misconduct (see the CVM Honor Code)**. References should therefore be cited using EITHER any of the **parenthetical formats** (see [http://www.wisc.edu/writing/Handbook/DocAPACitations\\_Multiple.html](http://www.wisc.edu/writing/Handbook/DocAPACitations_Multiple.html)) OR any of the **numbered references formats** (see <http://www.wisc.edu/writing/Handbook/DocNumCitations.html>).

\* In-keeping with the concept of self-directed learning, in addition to utilizing resources posted on Black Board, students are encouraged to utilize the practice's library as well as initiate discussions with the clinical site preceptor or other attending veterinarian.

### Assessment rubric

Criteria	Excellent (90 - 100%)	Satisfactory (70 - 89%)	Poor to Average (<70%)
<b>Organization and completeness (50%)</b>	All questions meet the criteria pertaining to content, as outlined above. Reference is made to disease susceptibility as it relates to the developmental stage of the host; the significance of management practices and the economic impact of the disease.	Only 50 percent of the questions meet the criteria pertaining to content as is outlined above. Reference is made to disease susceptibility as it relates to the developmental stage of the host; ; the significance of management practices and the economic impact of the disease.	Fifty percent or less of the questions satisfy the criteria pertaining to content as outlined above. No reference is made to the significance of management practices and the economic impact of the disease.
<b>Vocabulary (5%)</b>	Accurate and appropriate use of scientific/medical terminology. Lay terminology is/are appropriately utilized and explained.	Moderate but accurate and appropriate use of scientific/medical terminology. Lay terminology is/are appropriately utilized and explained.	Minimal and occasionally inaccurate use of scientific/medical terminology. Lay terminology is explained but is excessively utilized.
<b>Grammar, Punctuation, Spelling (15%)</b>	Rules of Grammar and punctuation are adhered to. No spelling errors.	Assignment contains a few grammatical, punctuation and/or spelling errors.	Assignment contains numerous grammatical, punctuation and/or spelling errors.
<b>Relevance (10%)</b>	Questions cover a wide range of infectious diseases and species of animals. Pathogens are appropriately matched with species.	Questions cover a moderate range of infectious diseases and species of animals. Pathogens are appropriately matched with species.	Questions cover a narrow range of infectious diseases and species of animals. Pathogens are inappropriately matched with species.
<b>References (5%)</b>	References are complete and adhere to the requested format; Personal Communication is appropriately noted using the <b>footnote</b> feature.	References are complete but fail to adhere to the requested format; They are numbered consecutively as they appear in the text; Personal communication is not appropriately noted.	References are incomplete and fail to adhere to the requested format OR are absent; Personal communication is not appropriately noted.

## #2. Disease Prevention

Select **one (1)** species of livestock encountered during the current course and **present a hypothetical client concern** (you may use a **real life** situation if you are aware of one) **that resulted** in the need for you to design **either a Herd health vaccination program for the control/prevention of respiratory disease** (pathogens) **OR a Herd health parasite (helminths control program to reduce morbidity and mortality rates due to gastrointestinal disease.** In your **introduction**, state the species and signalment of the animals being considered and include at least **3 factors** that may influence the type of vaccination or parasite control program that may be implemented on the particular farm. For each program, the **body** of the assignment should contain a justification for the product being recommended (killed, modified- live or recombinant vaccine, etc.; OR the class of anthelmintic or anti-protozoal agent,) the suggested timing of administration and the reason for that recommendation. Also include an estimate of the cost of the program to your client. Bearing in mind the type of operation being run by your client, briefly mention in your closing statements where aspects of **your** control program would fit into a biosecurity plan, if one were to be implemented. Provide **complete** references (including **peer-reviewed primary literature sources** – see Additional Resource Material, **p. 5**) for each question, using the format outlined by The National Library of Medicine (NLM) - AMA Manual of Style<sup>(1,3)</sup> or the Uniform Requirements for Manuscripts Submitted to Biomedical Journals: [http://www.nlm.nih.gov/bsd/uniform\\_requirements.html](http://www.nlm.nih.gov/bsd/uniform_requirements.html).

### Assessment rubric

Criteria	Excellent (90 – 100 %)	Proficient (79 - 89%)	Poor to Average (≤70-78%)
<b>Organization</b> (Introduction, body, conclusion including cost estimate) & <b>content</b> (use of related vocabulary). <b>(50%)</b>	Clear, logical, easy to follow plan with justifications. Plan fits into the presented management scheme and minimizes animal handling.	Clear, logical, easy to follow plan with justifications. The suggested program fits into the presented (hypothetical) management scheme but gives little consideration to animal handling. Student uses vocabulary appropriately.	Clear, logical, easy to follow plan with justifications. The suggested program does not fit the hypothetical management scheme very well and gives no consideration to the degree of animal handling. Related vocabulary is lacking.
<b>Completeness</b> <b>(25%)</b>	Selected disease bears relevance and significance to the animals' stage of development and species at hand. The student has justified the selection of the recommended prophylactic/therapeutic agent and the recommended frequency of administration. The appropriate biosecurity measures (those pertaining to mode(s) of transmission, surveillance etc.) have been adequately covered.	Selected disease bears relevance and significance to the animals' stage of development and species at hand. The student has justified the selection of the recommended prophylactic/therapeutic agent and the recommended frequency of administration. However, appropriate biosecurity measures (those pertaining to mode(s) of transmission, surveillance etc.) have not been adequately covered.	Selected disease does not bear relevance and significance to the animals' stage of development and species at hand. The student has not justified the selection of the recommended product and/or the frequency of administration. Biosecurity measures (those pertaining to mode(s) of transmission, surveillance etc.) have not been adequately covered.
<b>Vocabulary</b> <b>(5%)</b>	Accurate and appropriate use of scientific/medical terminology. Lay terminology is appropriately utilized and explained.	Moderate but accurate and appropriate use of scientific/medical terminology. Lay terminology is appropriately utilized and explained.	Minimal and occasionally inaccurate use of scientific/medical terminology. The use of lay terminology is inappropriately and excessively utilized. No explanation is provided.
<b>Grammar, Punctuation &amp; Spelling</b> <b>(15 %)</b>	Rules of grammar, usage, and punctuation are followed; spelling is correct. Language is clear and precise. Jargon or conversational tone is appropriately used.	The paper contains few grammatical, punctuation and spelling errors. Language lacks clarity. Jargon or conversational tone is appropriately used.	The paper contains numerous grammatical, punctuation, and spelling errors. Language consists largely of jargon or conversational tone which is inappropriately used.
<b>References (5%)</b>	References are complete and adhere to a specific format; References are relevant and are easily identified throughout the text. Personal communication is appropriately noted using the <b>footnote</b> feature.	References are complete and relevant but fail to adhere to a specific format. Personal communication is not appropriately noted.	References are incomplete, fail to adhere to a specific format, fail to bear relevance to the text OR are absent. Personal communication is not appropriately noted.

## Appendix D: Format- Post Mortem Report

Student Name:

Clay Center, Nebraska, Necropsy Assignment

Date:

### POSTMORTEM REPORT

- Date of the postmortem examination:
- Species-bovine
- Age- 2.5 wk old bull calf
- Body condition: good body condition or thin body condition, maybe emaciated
- Degree of autolysis: mild moderate or severe
- Sex- M
- Breed- Mixed breed - Herford-Angus
- Days hospitalized- 0

1. Problem/ presentation/ history- Large and slow calf being treated for unknown reason. Found dead in creek.
  
2. Necropsy findings- Enlarged rounded firm liver (weight will be nice). White soft granular material (suppurative material –abscess- maybe) in both of the umbilical arteries and the umbilical vein. Patent foramen ovale (size and location are important). There is abundant transparent straw color fluid in the abdomen (2 liters approx) (Ascites).

*Try to describe for every change: location, size (cm), color, shape, consistency and amount (number or percentage involved). Always use anatomic terms (small intestines instead of small bowels) and location.*

3. Diagnosis by organ:

Body as a whole: thin body condition and sever autolysis

Umbilical cord: Severe Omphalophlebitis and Omphaloarteritis.

Heart: Atrial septal defect – Patent foramen ovale with Right sided heart failure and portal hypertension.

Abdomen: ascites

Lung: moderate or mild pulmonary edema.

4. FINAL DIAGNOSIS: if possible