

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**. Students will avail themselves to the schedule outlined by the faculty at GPVEC; and 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. Students should spend approximately 50% of the scheduled time working directly on GPVEC coursework and approximately 50% in protected group or individually-determined and executed activities. 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. Students will have the opportunity to improve their skills in preparing necropsy reports in their teams for submission to Western University CVM professors.

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, camelids, 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 and communicate zoonotic risks to clients; correctly identify and communicate reportable diseases to clients and 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 or/and chemical) typically used for the safe, appropriate and humane handling of animals for clinical evaluation or/and treatment.
5. Administer medication/fluids orally, subcutaneously and/or intravenously, and determine the most appropriate route.
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), in light of

- current animal welfare issues (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 (see below):

Common conditions include but are not limited to:

Anaphylaxis
Atrophic rhinitis
Caprine Arthritis Encephalitis (CAE)
Common causes of lameness
Common Infectious Diseases
Dystocia
Hemorrhage
Hypoglycemia
Hypokalemia
Hypomagnesemia
Hypothermia/hyperthermia
Intoxication/poisoning
Polioencephalomalacia (PEM) in goats
Porcine parvovirus
Porcine Reproductive Respiratory Syndrome (PRRS)
Respiratory distress
Shock
Thromboembolic Meningoencephalitis (TEME) in cattle
Transmissible Gastroenteritis (TGE) in swine
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. Students participating in a field necropsy must communicate the morphologic findings (in the form of a necropsy report) 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)

Class attendance – Attendance and participation are required in order to optimize the educational experience of all students. Students are expected to participate in all scheduled activities of the practice. Failure to do so will require 'making up' for missed time, and may 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 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 Director** 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 Year III Clinical Courses Handbook) **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 requiring special accommodations for disabilities should contact the Center for Disability Issues & the Health Professions (CDIHP) - office: 909 469-5380. This office will coordinate reasonable accommodations for students with disabilities documented *prior to the beginning of the course*. Retroactive disability-related accommodations will not be granted.

Professional behavior – Professional behavior is conducive to a learning environment and is expected of all course participants. Professional behavior includes, but is not limited to, tolerance of others' beliefs and opinions, arriving on time, and being prepared and appropriately dressed.

Equipment/Clothing

1. For this course, 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. Any need for a change to this general rule, will be communicated by the Preceptor.
2. Other necessary implements include, surgical scrubs, a large animal digital thermometer (with string attached), stethoscope, pen light and hemostats.
3. 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.)
4. 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.
5. Computers and communication links to remote resources are recognized as being integral to the educational/research experience.
6. Fingernails should be trimmed to fingertip length to prevent patient injury during rectal exams and allow adequate surgical scrubbing.

Honor code – Each student's behavior and conduct are 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 provided by and located on the grounds of the GPVEC. Students will have access to a full kitchen but must provide their own food. Laundry facilities are provided. A more detailed description of the amenities is available at 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, 40 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 red, yellow, green form (See **Appendix A; p. 6**). At the end of the course, the Clinical Preceptor will be asked to complete a check list addressing student participation, clinical skill competencies and professional conduct. The Clinical Preceptor will access the form on One45 (See **Appendix B; pp. 7 and 8**) – reproduced from page 171 of the 2007-8 Western University of Health Sciences CVM Clinical Courses Handbook). Likewise, students will be asked to assess the course and site. Forms will be accessed through One45.

2. 50% Summative examination (100 pts)

All course objectives are subject to assessment in the summative exams (**October 8-12, 2007, December 10 – 14, 2007, March 3 – 7, 2008 and May 12 – 16, 2008**). In addition, material contained in case logs as well as board review exam questions may also be incorporated. The exam will be administered on campus during the assessment week following the course.

3. 20% Written assignments (Common Infectious Diseases -10pts; Disease Prevention -26 pts)

Assignments for course 7021 (# 1 and # 2) are listed in the **Appendix C**. They can be sent to the course director via e-mail (preferred), hard copy or fax and will be evaluated using the rubrics on **pages 9 and 10**. All assignments must be submitted **no later than 8 a.m. Pacific time, Monday, following the completion of the course**. Both assignments 1 and 2 **must** be completed. Assignment #1 will be graded as an individual's work, while students **may** work together on assignment # 2, submit one finished product and receive a common grade. Failure to complete and submit questions on time will result in a **15% point reduction**.

4. 15% Case Log/Clinical Skills Documentation (10 pts)

Students are expected to document cases seen during their course. This should be completed 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. Please note, when performing the same procedure or treatment (e.g. vaccinations/rectal palpations) on several animals at the same site only one entry needs to be made – noting the number of animals seen. If variable, all **breeds** should be noted. If an animal within that group is identified as having an additional problem or significant/unusual finding (mummified fetus, evidence of freemartinism, 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...' At least **three (3) logical differential diagnoses and a final or tentative diagnosis** -for the identified problem- **as well as the subsequent/appropriate treatment(s)**, should be entered in the appropriate column. Clinical Skills are also documented in association with each case log. Please be sure to complete this section as it provides you with a record of skills performed and is used by the College to document clinical skills acquisition for accreditation purposes.

5. P/F Clinical Competency Assessment (7.5 pts of 15)

During the on-campus examination (**October 8-12, 2007, December 10 – 14, 2007, March 3 – 7, 2008 and May 12 – 16, 2008**), students will demonstrate their competency in specific clinical skills as outlined under **Learning Objectives**.

6. 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 content and conduct, faculty and/or course director performance. The goal of this data is to improve instruction throughout the College curriculum, 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 their results mean. The use of such literature in the literature review process can provide compelling support for hypotheses *you* may present, as well as provide support for statements of fact 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 of, and understand the relevant experimentation that has been published on a topic to date.

In the broad scheme of knowledge, *primary literature* is the 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

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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 TO THIRD YEAR STUDENT

COLLEGE OF VETERINARY MEDICINE
WESTERN UNIVERSITY OF HEALTH SCIENCES

Student: _____ Preceptor: _____

Date: _____

Instructions: This is a simple form intended to provide weekly feed-back to students. Simply 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	Area of Concern-Needs	Warning, insufficient at
	For 3 rd year student	Improvement	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”; use additional pages if needed):

Preceptor must fill out the “Low Performance Evaluation” form in one45 and the student must email the course director.

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



Western University College of Veterinary Medicine Third Year DVM Program

To be completed by _____

On this form, you will be evaluating _____

For dates: _____ to _____

Clinical Preceptor Evaluation of Third year Student

Livestock Courses- 2009- 2010

Proficiency rating: The following categories are used to evaluate student’s performance at the end of the two-week course:

1-Rarely: Very problematic, area of grave concern. Performance is consistently poor for a 3rd 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 is a good, solid performance, done most of the time as normally expected of a 3rd year student.

4- Almost always: Performance of skill often exceeds expectations, is consistently excellent (i.e. above average) for a 3rd 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 animal welfare, etc).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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 5 multiple choice questions, each with a minimum of 4 possible choices (A, B... for e.g.), covering infectious diseases of livestock species covered in the syllabus (bovine (cattle), ovine (sheep), caprine (goats), camelids (Llamas & Alpacas) and porcine (swine). **For each question**, if not contained within the body of the question or among the list of responses, **both the etiology** (Scientific, scientific names written appropriately: **Genus species** or Genus species) **and the name of the disease must** be identified somewhere (may be disclosed in a Heading or appendix) within the assignment. Provide **complete** references (including a **minimum of 2 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^(1,3) or the Uniform Requirements for Manuscripts Submitted to Biomedical Journals: 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) 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, students are expected to actively research the assignment. Although some resources will be made posted on Black Board students are also expected to utilize the practice's library as well as initiate discussions with the clinical site coordinator or attending veterinarian where necessary. Assessment results will be used to determine if students need additional experiences that allow them to practice their problem solving skills.

Assessment rubric

Criteria	Excellent (90 - 100%)	Proficient (79 - 89%)	Poor to Average (≤70-78%)
Complexity of the Question (50%)	Focuses on the impact of the disease on the production system (i.e. gives consideration to the animals' developmental stage, management practices, OR other predisposing factor(s) that may influence the economic impact of the disease in at least 3 questions).	Reference is made to the impact of the disease on the production system (i.e. gives consideration to developmental stage, farming practice, or other predisposing factor that may influence the economic impact of the disease in at least 2 questions).	No reference to factors that influence the economic impact of the disease.
Vocabulary (5%)	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.
Grammar, Punctuation, Spelling (15%)	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.
Relevance (10%)	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.
References (5%)	References are complete and adhere to the requested format; Personal Communication is appropriately noted using the footnote 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⁽¹³⁾ or the Uniform Requirements for Manuscripts Submitted to Biomedical Journals: http://www.nlm.nih.gov/bsd/uniform_requirements.html.**

Assessment rubric

Criteria	Excellent (90 – 100 %)	Proficient (79 - 89%)	Poor to Average (≤70-78%)
Organization (Introduction, body, conclusion including cost estimate) & content (use of related vocabulary). (50%)	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.
Completeness (25%)	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.
Vocabulary (5%)	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.
Grammar, Punctuation & Spelling (15 %)	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.
References (5%)	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 footnote 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