Course Number and Title: VET 240 Food Animal and Equine Nursing

Campus Location:
Georgetown

Effective Date:
2022-51

Prerequisite:
VET 220, VET 221, VET 210, VET 223

Co-Requisites:
None

Course Credits and Hours:
3.00 credits
2.00 lecture hours/week
6.00 lab hours/week

Course Description:
This course focuses on the medical, anesthetic, and surgical nursing of the food animal and equine patient. This course introduces concepts in drug administration, surgical procedures, including anesthesia and fluid therapy, patient preparation and monitoring, and wound management. The importance of effective history taking, medical record documentation, physical examination will be reinforced. Clinical rotations will provide an opportunity for the student to perform techniques required of the veterinary technician in large animal practice.

Required Text(s):
Obtain current textbook information by viewing the campus bookstore - https://www.dtcc.edu/bookstores online or visit a campus bookstore. Check your course schedule for the course number and section.

Additional Materials:
Stethoscope, watch with second hand and paddock boots or other protective shoes

Schedule Type:
Classroom Course

Disclaimer:
The student must have completed required rabies pre-exposure vaccination series or document proof of protective titer before taking this course. The cost of the series is the responsibility of the student and may not be covered by insurance. Students will be working with live animals. Students are required to travel to the Georgetown campus and/or off-campus clinical facilities on a weekly basis.

Core Course Performance Objectives (CCPOs):

1. Discuss concepts of food animal and equine manual and chemical restraint. (CCC 5, PGC 1, 2)
2. Discuss routes of administration of medication and fluid therapy in the food animal and equine patient. (CCC 5, PGC 1, 2)
3. Describe procedures for collection and evaluation of hematological and cytological samples in the food animal and/or equine patient. (CCC 1, 3, 5, 6, PGC 1, 2)
4. Explain the steps involved in a thorough physical examination and documentation requirements in an individual or herd based medical record. (CCC 5, 6, PGC 1, 2)
5. Describe the normal development of the neonate and identify medical needs if critically ill. (CCC 5, PGC 1, 2)
6. Identify signs of pain or stress in large animal patient and discuss common pain management protocols. (CCC 5, PGC 1, 2)
7. Discuss perioperative nursing care of the large animal patient. (CCC 1, 3, 5; PGC 1, 2)
8. Describe concepts of anesthesiology in the large animal patient, including patient preparation, intubation, anesthetic drugs, monitoring, and emergency triage. (CCC 1, 3, 5, 6, PGC 1, 2)
9. Describe common surgical procedures in large animals and identify equipment used. (CCC 1, 3, 5, 6, PGC 1, 2)
10. Perform a variety of techniques in large animals. (CCC 1, 3, 5, 6, PGC 1, 2, 3)
11. Compare and contrast food animal and equine estrous cycles, gestation, and parturition. (CCC 5, PGC 1, 2)

See Core Curriculum Competencies and Program Graduate Competencies at the end of the syllabus. CCPOs are linked to every competency they develop.

Measurable Performance Objectives (MPOs):
Upon completion of this course, the student will:

1. Discuss concepts of food animal and equine manual and chemical restraint.
    1. Describe the physical abilities and disposition of large animal species and how these affect the ways they are handled.
    2. Describe methods for approaching and capturing adult and juvenile large animals, including using restraint equipment, diversion, and pharmaceutical products.
    3. Describe special restraint techniques for large animals and the circumstances in which they are used.
2. Discuss routes of administration of medication and fluid therapy in the food animal and equine patient.
    1. Identify the sites, technique used, equipment required, and potential complications for administration of oral, subcutaneous, intramuscular, intravenous, and intraocular medication.
    2. Discuss the use of intrauterine medication in the mare and cow.

3. Describe the routes of fluid administration and identify common crystalloid and colloid available.
4. List the steps involved in placing an intravenous catheter in the horse and discuss potential complications.
5. Discuss the care and management of the intravenous catheter in the horse.
6. Identify and compare the different types of catheter used in large animal medicine.
7. Calculate drug and fluid therapy orders.

3. Describe procedures for collection and evaluation of hematological and cytological samples in the food animal and/or equine patient.
    1. Utilize the reference values associated with complete blood count (CBC), chemistry/profile, and urinalysis to determine normal versus abnormal findings and indicate reasons for abnormal findings.
    2. Describe procedures used to collect and evaluate fecal, urine, rumen fluid, pleural/abdominal effusion, joint fluid, CSF, and milk samples.
    3. Identify the sites available for obtaining a venous and/or arterial blood sample in large animals.
    4. Describe the techniques used to obtain samples from the airway of the horse, including transtracheal washing (TTW) and bronchoalveolar lavage (BAL).
4. Explain the steps involved in a thorough physical examination and documentation requirements in an individual or herd based medical record.
    1. Describe methods for collecting and storing medical record information in ambulatory veterinary medical practices.
    2. Compare the individual animal and herd based medical record forms.
    3. Discuss the application of the Veterinary Client Patient Relationship (VCPR) and Extra Label Drug Use (ELDU), and meat/milk withdrawal times.
    4. Identify history questions specific to the equine owner or food producer that provide information pertinent to a diagnosis.
    5. Complete a medical record and associated documentation for a large animal patient, including an ICU treatment plan for a neonate.
    6. Perform a systemic approach physical examination on a horse and cow and determine normal physiological values (TPR), including hydration status and capillary refill time (CRT).
    7. Perform a four-quadrant gut auscultation in the horse and identify the part of the gastrointestinal tract that is evaluated.
    8. Determine ruminations per minute in a cow.
    9. Identify normal and abnormal arrhythmias in the large animal patient and discuss treatment protocols if applicable.
    10. Discuss the different ways to determine age, height and weight in large animals.
    11. Define “floating” and discuss the potential dental diseases in the horse.
5. Describe the normal development of the neonate and identify medical needs if critically ill.
    1. Identify clinical signs and physiological parameters of the healthy neonate.
    2. Discuss the importance of colostrum ingestion in the neonate and identify routes of administration if IgG levels are low.
    3. Identify clinical signs, including pain, and physiological parameters of the critically ill neonate.
    4. Discuss common diseases/disorders affecting the neonate, including medical intervention.
    5. Create an ICU treatment plan for a medically ill neonate, including dose calculations.
    6. Describe partial/total parenteral nutrition and CRI procedures for the neonate.
    7. Identify common pharmacological drugs, including pain management, used for treating the neonate.
6. Identify signs of pain or stress in large animal patient and discuss common pain management protocols.
    1. Describe common causes of pain and distress in the large animal.
    2. Identify clinical signs and physiological parameters of the large animal patient.
    3. Discuss pain management protocols available in large animals and identify common drugs used.
    4. Compare acute and chronic pain.
    5. Discuss the sequalae to chronic pain and the impact on performance.
    6. Calculate pain management drug doses.
7. Discuss perioperative nursing care of the large animal patient.
    1. Identify the role of the veterinary technician in perioperative nursing care.
    2. Describe common routes of administration of drugs.
    3. List techniques that decrease the incidence of stress, pain, and muscular/neurological conditions in the recumbent large animal patient.
8. Describe concepts of anesthesiology in the large animal patient, including patient preparation, intubation, anesthetic drugs, monitoring, and emergency triage.
    1. Identify and calculate doses of common pre-medications, induction drugs, and maintenance anesthesia in the large animal patient.
    2. Discuss ways to identify depth of anesthesia in the large animal patient.
    3. Describe patient preparation requirements for a variety of soft tissue and orthopedic surgeries.
    4. Identify components of the large animal ventilator and calculate oxygen flow and tidal volume.
    5. Compare anesthesia protocols in the equine and ruminant.
9. Describe common surgical procedures in large animals and identify equipment used.
    1. Identify common equipment and supplies used in large animal surgical procedures.
    2. Discuss common surgical procedures of the large animal patient, including castration, dehorning, and prolapse repair.
    3. Describe the role of the veterinary technician in surgical assisting.
10. Perform a variety of techniques in large animals.
    1. Demonstrate common methods of physical restraint of the ruminant and horse.
    2. Perform a physical examination on a ruminant and horse.
    3. Perform a variety of routes of drug administration in the ruminant and horse, including intramuscular and intravenous.
    4. Demonstrate proper venipuncture technique using the jugular vein.
    5. Identify alternative venipuncture sites.
    6. Identify landmarks for common sites for regional and local anesthesia blocks, including epidurals.
11. Compare and contrast food animal and equine estrous cycles, gestation, and parturition.
    1. Describe the length of the estrous cycle, estrus, and gestation in large animals.
    2. List the three stages of parturition and discuss the events and length of each.
    3. Compare the type of placentation of the mare, cow, sow, ewe, and doe.
    4. Identify the “at risk” mare and discuss potential periparturient complications.
    5. Define “dystocia” and discuss correction and complications involved.
    6. Discuss complications in the foal due to dystocia and potential medical intervention.
    7. Identify the components of the maternal and fetal membranes.
    8. List the problems associated with retained fetal membranes (RFM) and medical therapy requirements.

9. Discuss artificial and pharmacological manipulation of the breeding cycle in mares and cows.

Evaluation Criteria/Policies:
The grade will be determined using the Delaware Tech grading system:

90	–	100	=	A
80	–	89	=	B
70	–	79	=	C
0	–	69	=	F

Students should refer to the Student Handbook - https://www.dtcc.edu/handbook for information on the Academic Standing Policy, the Academic Integrity Policy, Student Rights and Responsibilities, and other policies relevant to their academic progress.

Final Course Grade:
Calculated using the following weighted average

Evaluation Measure	Percentage of final grade
Summative: Examinations	84%
Formative: Mathematic Calculation Assignment	8%
Formative: Drug Bioavailability Assignment	8%
Summative: AVMA Essential Skill Evaluation	Pass/Fail
TOTAL	100%

Core Curriculum Competencies (CCCs are the competencies every graduate will develop):

1. Apply clear and effective communication skills.
2. Use critical thinking to solve problems.
3. Collaborate to achieve a common goal.
4. Demonstrate professional and ethical conduct.
5. Use information literacy for effective vocational and/or academic research.
6. Apply quantitative reasoning and/or scientific inquiry to solve practical problems.

Program Graduate Competencies (PGCs are the competencies every graduate will develop specific to his or her major):

1. Apply theoretical information that leads to appropriate action in the application of delivery of veterinary nursing procedures.
2. Competently perform a full range of veterinary nursing procedures used in small and large animal medicine.
3. Practice behaviors that are consistent with the Veterinary Technology Code of Ethics and employer expectations/requirements.

Disabilities Support Statement:
The College is committed to providing reasonable accommodations for students with disabilities. Students are encouraged to schedule an appointment with the campus Disabilities Support Counselor to request an accommodation needed due to a disability. A listing of campus Disabilities Support Counselors and contact information can be found at the disabilities services - https://www.dtcc.edu/disabilitysupport web page or visit the campus Advising Center.