



Veterinary Critical Care

VET 248

3 Credit Hours

Spring 2022

Cap: 18

Faculty: Dr. Germaine Daye

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Office Phone: (505) 786-4150

Office Hours: Thursdays 1-3 pm, or by appointment

Preferred Communication (will respond within 24 hours): email or text

Modality: Hybrid

Class Location and Meeting Times: NTU VTH Lab (face-to-face), Lectures via zoom/face-to-face

Meeting Hours and Online Hours: Wednesdays 8 – 5 pm; if needed, 8 – 12 pm Fridays

Required Materials:

Textbooks:

Battaglia, A. M. *Small Animal Emergency and Critical Care for Veterinary Technicians 3rd Edition*. St. Louis: Elsevier, 2016. ISBN – 978-0-323-22774-2

Tools:

Calculator, Smock, Stethoscope, Digital thermometer, Bandage scissors, Suture scissors, Universal scissors Equine weight tape, Beef Cow weight tape, Beef Calf weight tape, Black Sharpie pen, Safety goggles, Scrubs (optional) Computer/laptop with video/audio capability Rubber Boots (steel toe optional)

Lab Fee (if applicable): None

Mission, Vision, and Philosophy

Mission: Navajo Technical University honors Diné culture and language, while educating for the future.

Vision: Navajo Technical University provides an excellent educational experience in a supportive, culturally diverse environment, enabling all community members to grow intellectually, culturally, and economically.

Philosophy: Through the teachings of Nitsáhákees (thinking), Nahátá (planning), Íina (implementing), and Siihasin (reflection), students acquire quality education in diverse fields, while preserving cultural values and gaining economic opportunities.

Course Description

This course will provide instruction on assessment, monitoring, and intervention with emergencies. The student will use knowledge of overall anatomy, physiology, disease, or injury to assist in veterinarian diagnoses and treatment. Prerequisites: VET-230, VET-232, VET-234, and VET-236. Students must earn 75% or better to advance to the next level of courses in the major. This course is only offered in the spring semester.

Course Objectives:

Every student will learn to:

1. Demonstrate knowledge of equipment, supplies, and medications, including a crash cart, needed to respond to small and large animal emergencies.
2. Demonstrate knowledge of common small and large animal emergencies, and understand secondary complications of trauma and critical illness and their recommended treatment or resuscitation protocols.
3. Demonstrate patient management knowledge and skills for small and large animal emergency patients.
4. Demonstrate emergency stabilization and treatment procedures.

Course Outcomes	Course Assessments
<p>1. Demonstrate knowledge of equipment, supplies, and medications, including a crash cart, needed to respond to small and large animal emergencies through the following:</p> <ul style="list-style-type: none"> • List and maintain emergency medical supplies/crash cart* (e.g. storage cart, <ul style="list-style-type: none"> • Battery operated equipment • Laryngoscope, various sized blades • Endotracheal tubes • Tie for endotracheal tube • Stylette for intubation • Rigid catheter (tom cat and long urinary) to assess with intubation and endotracheal drug administration • Three-, six, and twelve ml syringes • 22g X 1", 22g X 1 1/2", 20g X 1", 25g X 5/8" needles • Ambu-bag and oxygen source • Electrocardiogram monitor • Pulse-Ox monitor • Blood pressure sphygmomanometer • Glucometer • Blood tubes • Tourniquet • 1L bags of fluids (variety) • IV lines (variety) • Diazepam • Epinephrine • Doxapram • Lidocaine • Glycopyrrolate • Atropine • Dexamethasone SP • Furosemide • Naloxone • Calcium Gluconate or Calcium chloride • Magnesium chloride 	<p>Written exams, practical exams, clinical observation</p>

<ul style="list-style-type: none"> • Heparinized saline flush • 0.9% saline (Sodium Chloride) • 50% dextrose • Laceration pack for slash tracheostomy • Intravenous catheters (variety) • ½ inch and 1-inch white tape • Scrub and alcohol • Catheter adapters • Lubricating jelly • Artificial tears for eye lubrication • Thermometer • Emergency drug table (binder)– drugs in appropriate doses and volumes and routes of administrations for animals of various sizes • Clippers with #10 and #40 blade • Exam gloves (variety of sizes) • Euthanasia solution • List and identify components of large animal emergency supplies <ul style="list-style-type: none"> • Twitch • Equine stocks • Nasogastric tube (variety) • General lubrication • Halter and lead rope • Fluid pump • Mineral oil • Laceration packs, suture • (see list above) 	
<p>2. Demonstrate knowledge of common small and large animal emergencies, and understand secondary complications of trauma and critical illness and their recommended treatment or resuscitation protocols, through the following:</p> <ul style="list-style-type: none"> • Understand pathophysiology of common emergency diseases or conditions • Understand pathophysiology of secondary complications and their treatment 	<p>Written exams, practical exams, clinical observation</p>
<p>3. Demonstrate patient management knowledge and skills for small and large animal emergency patients, through the following:</p> <ul style="list-style-type: none"> • Collecting subjective and objective data • Initial management • Triage • Diagnostic procedures • Treatment procedures • Monitoring 	<p>Written exams, practical exams, clinical observation</p>

<p>4. Demonstrate emergency stabilization and treatment procedures through the following:</p> <ul style="list-style-type: none"> • <i>place intravenous catheters (cephalic, saphenous, jugular)</i> • <i>maintain and care for catheters*</i> • <i>determine/maintain fluid infusion rate*</i> • <i>monitor patient hydration status*</i> • <i>develop familiarity with fluid delivery systems*</i> • <i>Develop understanding of wound management and abscess care*</i> • <i>Perform critical care:</i> <ul style="list-style-type: none"> • <i>Understand how to maintain chest, tracheostomy, esophagostomy tubes</i> • <i>Collect and crossmatch blood for transfusion in a group*</i> • <i>Perform blood typing</i> • <i>Perform blood transfusions (autotransfusions may be considered)</i> • <i>Apply established emergency protocols (simulation acceptable):</i> <ul style="list-style-type: none"> • <i>Perform first aid and cardiopulmonary resuscitation*</i> • <i>Use resuscitation bag*</i> • <i>Apply emergency splints and bandages*</i> • <i>Perform physical therapy:</i> <ul style="list-style-type: none"> • <i>Hydrotherapy</i> • <i>Post-operative</i> • <i>Orthopedic</i> • <i>Neurological</i> • <i>Explain care of recumbent patient*</i> • <i>Given the directions of the veterinarian and the characteristics of the patient, the student veterinary technician will carry out appropriate therapeutic techniques in order to achieve maximum health benefits for the patient.</i> 	<p>Written exams, practical exams, clinical observation</p>
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Connections to Program Assessment (Course-Embedded Measures): SLO to “Perform patient assessment and nursing procedure.”

Course Activities

Week	Date	Class Topics/Reading Due	Assignments Due	Assessments
1	Jan. 19	Introduction (cover syllabus, class expectations, safety) Chapters 1 and 2 – critical thinking and monitoring <i>Weekly case assignment 1 given out</i> <i>HW#1 given out</i>		Pre-test assessment
	Jan 21	Last day to add/drop		
2	Jan. 26	Chapters 3 and 4 – IV catheters and fluid therapy <i>HW#2 given out</i> <i>Weekly case assignment 2 given out</i> <i>Final project information given out</i>	HW#1	Quiz #1
3	Feb. 2	Chapters 5 – Transfusion medicine	HW#2	Quiz #2

		Chapters 7 and 8 – oxygen therapy, mechanical ventilation <i>HW#3 given out</i> <i>Weekly case #3 given out</i>	Presentation topic due	
4	Feb. 9	Large Animal Emergencies Chapter 9 pain assessment and treatment Chapter 11 – isolation <i>HW#4 given out</i> <i>Weekly case #4 given out</i>	HW#3 Weekly cases 1-3 due Crash cart list, drug table for binder	Quiz #3
5	Feb. 16	Chapter 10 from fourth edition – rehabilitation (will provide student a copy) <i>HW#5 given out</i> <i>Weekly case #5 given out</i>	HW#4 Journal Review #1 due	Quiz #4
6	Feb. 23	Chapters 12 and 13 – emergency receiving, management of shock <i>HW#6 given out</i> <i>Weekly case #6 given out</i>	HW#5	Quiz #5
7	March 2	Chapters 14 and 15 – current CPR, traumatic injuries <i>HW#7 given out</i> <i>Weekly case #7 given out</i>	HW#6 Weekly cases 4-6 due	Quiz #6
8	March 9	Midterm Exam		Midterm
	March 14-18	Spring Break		
9	March 23	Chapter 16 and 17 – hematologic emergencies, cardiovascular emergencies <i>HW#8 given out</i> <i>Weekly case #8 given out</i>	HW#7 Rough Draft Presentation Due, Journal Review #2 due	Quiz #7
10	March 30	Chapters 18 and 19 – respiratory emergencies, gastrointestinal emergencies <i>HW#9 given out</i> <i>Weekly case #9 given out</i>	HW#8 due	Quiz #8
11	April 6	Chapters 20 and 21 – metabolic emergencies, urologic emergencies <i>HW#10 given out</i> <i>Weekly case #10 given out</i>	HW#9 Weekly cases 7-9 due	Quiz #10
12	April 13	Chapters 22 and 23 – Reproductive emergencies, ocular emergencies <i>HW#11 given out</i> <i>Weekly case #11 given out</i>	HW#10 Give Presentation	Quiz #11
13	April 20	Chapters 24 and 25 – neurologic and toxicologic emergencies <i>HW#12 given out</i> <i>Weekly case #12 given out</i>	HW#11 due	Quiz #12
14	April 27	Chapters 26 and 27 – avian and exotic emergencies, disaster medicine <i>HW#13 given out</i> <i>Weekly case #13 given out</i>	HW#12 due	Quiz #13
15	May 4	Chapters 28 and 29 – scheduling and client communication	HW#13 due Weekly cases 10-13 due	Quiz #14

		Chapter 32 in edition 4 – pharmaceuticals in the ER (will provide student with copy) <i>HW#14 given out</i>	Final Project due	
16	May 11	Final exam	HW#14	Final exam
	May 12	Grades due to the Registrar		
	May 13	Graduation		

***** Note, this is a general outline. It may be adjusted as needed during the semester. *****

Grading Plan

Homework:	120 points	20%
Class Participation:	6 points	1%
Project(s)/presentations/portfolio/labs:	54 points	9%
Quizzes:	60 points	10%
Midterm Exam:	150 points	25%
Final Exam:	210 points	35%
Total	600 points	100%

Letter Grade Percent

A	100 – 92%
B	91 – 83%
C	82 – 75%
D	74 – 60%
F	59 – 0%

Course Policies

Classroom / Clinic Policy

Students are expected to act and dress in a professional, safe and ethical manner. This includes good behavior and professional/safe dress (smocks, scrubs, no caps, no sandals, no long fingernails, no dangling jewelry, no loose/baggy clothing, well groomed). Students will treat animals and clients properly and professionally. Students should handle this course as part lab and practice proper safety and hygiene. Students will not be able to participate in the clinic if not properly dressed with safety and professionalism in mind and without the required equipment (Smock, Stethoscope, Digital thermometer, Bandage scissors, Equine weight tape, Black Sharpe pen). Students without required equipment will be IMMEDIATELY sent to the bookstore to purchase required equipment. Students are NOT allowed to give clients their opinion on diagnoses, interpretation of lab results, treatments, or prognoses—doing so will result in IMMEDIATE dismissal from the Veterinary Technology program.

Grading Policy

Students must do their own work on homework assignments and exams. Discussion among students on homework and cases is encouraged for clarification of assignments, technical details of using software, and structuring major steps of solutions. Cheating and plagiarism are strictly forbidden. Cheating includes but is not limited to: plagiarism, submission of work that is not the student's own, submission or use of falsified data, unauthorized access to exams or assignments, use of unauthorized material during an exam, supplying or communicating unauthorized information for an assignment or exam. Cheating will result in a zero (0) score on the assignment or exam, and possibly the course depending on the nature. Students are required to make prior arrangements with the Instructor if they are unable to take an exam as scheduled; final decision to take the exam at a different time is at the discretion of the Instructor. Students need to notify the Instructor of their emergency (life or death) situation before the exam is given; final decision to take the exam at a different time is at the discretion of the Instructor.

Participation

Students are expected to attend and participate in all class activities- as listed above, as it is part of the grade. Points will be given to students who actively participate in class activities including field trips, laboratories, and ask questions of guest speakers and other presenters. A major portion of the learning process consists of your active participation in class and in the hospital including the observation of others especially in the clinical setting. Keeping up with the assigned reading will allow you to contribute to class and case discussions and enhance your understanding of the topics and your ability to perform the procedures in the clinical setting. Listening to your classmates' presentations and providing them with appropriate feedback will also enhance your learning and class participation. Participation in this course and all other courses in the Veterinary Technology curriculum requires scheduled on-call time which includes but is not limited to the proper feeding, watering, and general care of the NTU sheep and chickens. Failure to participate in the care of these animals may result in failure of this course.

Cell phone and headphone use

Please turn cell phones off or place them on silence or vibrate mode **BEFORE** coming to class. Also, answer cell phones **OUTSIDE OF CLASS** (not in the classroom). Cell phones used during class will be confiscated until the end of class. Exercising cell phone use courtesy is appreciated by both the instructor and classmates. Headphones are to be removed before coming to class.

Computer / Printer / Telephone Use

Students will not be allowed to use computers during class & clinic times unless permitted by the instructor. Printers are for assignments only. Continued violation of this request will result in loss of privileges. The copier and fax are for office use only. Do not ask to use the clinic telephones for personal business; inform your friends and family members not to call you during class and clinic times. Telephones are for veterinary-related business only.

Attendance Policy

Students are expected to attend all class sessions. A percentage of the student's grade will be based on class attendance and participation. Absence from class, regardless of the reason, does not relieve the student of responsibility to complete all course work by required deadlines. Furthermore, it is the student's responsibility to obtain notes, handouts, and any other information covered when absent from class and to arrange to make up any in-class assignments or tests if permitted by the instructor. Incomplete or missing assignments will necessarily affect the student's grades. Instructors will report excessive and/or unexplained absences to the Counseling Department for investigation and potential intervention. **Instructors may drop students from the class after three (3) absences unless prior arrangements are made with the instructor to make up work and the instructor deems any excuse acceptable.**

Tardiness

Tardiness is disruptive to your classmates and the instructor. One (1) point will be docked from your overall points for every day you are late up to ten (10) minutes. Tardiness beyond ten (10) minutes is considered an absence. Attendance will be taken at the beginning of class. It is your responsibility to make sure you sign in on the sign-in sheet if you arrive late for class.

Study Time Outside of Class for Face-to-Face Courses

For every credit hour in class, a student is expected to spend two hours outside of class studying course materials.

Study Time for Hybrid or Blended Courses

For a hybrid or blended course of one credit hour, a student is expected to spend three hours per week studying course materials.

Study Time for Online Courses

For an online course of one credit hour, a student is expected to spend four hours per week studying course materials.

Academic Integrity

Integrity (honesty) is expected of every student in all academic work. The guiding principle of academic integrity is that a student's submitted work must be the student's own. Students who engage in academic dishonesty diminish their education and bring discredit to the University community. Avoid situations likely to compromise academic integrity such as: cheating, facilitating academic dishonesty, and plagiarism; modifying academic work to obtain additional credit in the same class unless approved in advance by the instructor, failure to observe rules of academic integrity established by the instructor. **The use of another person's ideas or work claimed as your own without acknowledging the original source is known as plagiarism and is prohibited.**

Diné Philosophy of Education

The Diné Philosophy of Education (DPE) is incorporated into every class for students to become aware of and to understand the significance of the four Diné philosophical elements, including its affiliation with the four directions, four sacred mountains, the four set of thought processes and so forth: Nitsáhákees, Nahát'á, Íina and Siih Hasin which are essential and relevant to self-identity, respect and wisdom to achieve career goals successfully.

At NTU's Zuni Campus, the A:shiwí Philosophy of Education offers essential elements for helping students develop Indigenous and Western understandings. Yam de bena: dap haydoshna: akkya hon detsemak a:wannikwa da: hon de:tsemak a:ts'umme. *Our language and ceremonies allow our people to maintain strength and knowledge.* A:shiwí core values of hon i:yyułashik'yanna:wa (respect), hon delank'oha:willa:wa (kindness and empathy), hon i:yyayumola:wa (honesty and trustworthiness), and hon kohoł lewuna:wediyahnan, wan hon kela i:tsemanna (think critically) are central to attaining strength and knowledge. They help learners develop positive self-identity, respect, kindness, and critical thinking skills to achieve life goals successfully.

Students with Disabilities

Navajo Technical University is committed to serving all students in a non-discriminatory and accommodating manner. Any student who feels that she or he may need special accommodations should contact the Accommodations Office (<http://www.navajotech.edu/student-services#accomodations-services>) in accordance with the university's Disability Accommodations Policy (see http://www.navajotech.edu/images/about/policiesDocs/Disability_Exhibit-A_6-26-2018.pdf).

Email Address

Students are required to use NTU's email address for all communications with faculty and staff.

Final Exam Date: TBA

THIS SYLLABUS SUBJECT TO CHANGE BY THE INSTRUCTOR