BIO 489: Large Animal Veterinary Practice in the Tropics

Credit Hours: 3 credit hours
Instructor: Dr. Edwardo Ernesto Tesecum

Course Dates: Session 1: May 31-June 14, 2025; Session 2: June 14 – June 28, 2025; Session 3: June 28 – July 12, 2025

Required Texts (readings will be made available as a Course Reader in electronic format):

1. McCurnin, D.M., *Clinical Textbook for Veterinary Technicians*, 2nd edition, Philadelphia, Saunders Company, 1990.
2. Frandson, W. Lee Wilke, Anna Dee Fails, *Anatomy and Physiology of Farm Animals*, 6th edition, Lippincott, ISBN: 0-7817-3358-8
3. J.R Campbell, M. D Kenealy, K. L Campbell, *Animal Science*, 4th edition, McGraw Hill 2003
4. Niles, J and John Williams, Suture materials and patterns. In Practice 1999; 21:6 308-320
5. Sissener, T. (2006), Suture patterns. *Companion Animal*, 11: 14–19.
6. *Optional - The Merck Veterinary Manual*, 8th Ed., Merck & Co., ISBN: 009-11910298

Required Equipment: Each student must bring scrubs, a stethoscope, a thermometer, a supply of disposable latex gloves and rubber or hiking boots as well as rain gear.

Course Description

This course offers exciting field opportunities in Belize, a country known for its animal diversity and ecological progressiveness. Students will have the opportunity to learn hands-on veterinary examination techniques at working ranches and farms (horse, sheep, cattle and pigs) as well as learn about animal agriculture in Belize, including analyzing laboratory specimens in a laboratory. This course is designed for the veterinary, pre-veterinary, animal science, or zoology students to gain working knowledge of the husbandry, and health issues confronting farm animals such as horses, sheep, pigs and cattle (beef and dairy) in Belize. The course is introductory but intense with laxity intentionally built into the schedule to accommodate individual interests of the students taking the course.

Classroom sessions on anatomy, physiology, and pathology lay the foundation of knowledge needed to confront animal husbandry and disease issues. The majority of the student's time will

be spent in fieldwork involving such areas as a working horse ranch and breeding facility; a working sheep farm focusing on genetic breeding; and cattle (dairy and beef) and pig farms. Each of the field experiences will provide students with general husbandry (shelter, nutrition, and waste management) knowledge of large farm animals. Additionally, basic veterinary care such as physical examination and basic suture technique will be taught and more advanced veterinary care such as preventive medicine, reproductive management, medicine and surgery will be observed. The field experiences will provide students with hands-on experience and problem-solving skills that will assist them while developing careers related to animal health.

Course Goals and Learning Objectives

By the end of this course, the student will be able to demonstrate a basic understanding of the concepts and principles of animal science and be able to demonstrate practical skills such as physical assessment, suturing, and identification of major diseases. Upon successful completion of the course, the student will be able to:

- Describe the major issues and challenges in animal agriculture in Belize and globally
- Be familiar with livestock terminology
- Know and describe the basic anatomy and physiology of large farm animals
- Attain a basic understanding about the science of and applications to animal husbandry, feeding, growth, health, reproduction and breeding, and animal welfare issues
- Demonstrate basic mastery of diagnostics and therapeutic management procedures of cows, horses, pigs and sheep
- Identify basic skin diseases of large animals
- Demonstrate basic suture skills and have a basic understanding of tissue handling, suture patterns, and suture material

Course Policies

Attendance and Participation Policy

Students are expected to attend all class sessions on all days of class. It will be the responsibility of the student to contact the course instructor, preferably before the absence, to provide the appropriate documentation and verification for the reason for the absence, and to make arrangements with the course instructor for missed work. Students missing a class session without following this protocol will be subject to limited participation in hands-on practice at the instructor's discretion.

Regardless of the reason for absences, both absences from class will count toward the percentage of allowed absences. A "class" is one class session- some days, there are multiple class sessions. Students are responsible for all missed class material. Students may be subject to limited participation in hands-on practice at the instructor's discretion if they have missed the underlying material needed to safely perform the task at hand.

A warning to the student and student's home university point person may result if the student is absent 12.5% of the total number of class meetings. If a student is absent 25% of the total number of class meetings, the course instructor must notify the Registrar's Office which will initiate the withdrawal of the student from the class with a grade of WF (Withdrawn-Fail).

Grading Scale:

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93-100%	= A	73-76.99%	= C
90-92.99%	= A-	70-72.99%	= C-
87-89.99%	= B+	67-69.99%	= D+
83-86.99%	= B	63 -66.99%	= D
80-82.99%	= B-	60- 62.99%	= D-
77-79.99%	= C+	59 and below	= F

Assignments and Points

Your course grade will be determined as follows:

Participation in discussions, labs and field work	30%
Presentation	25%
Field trip worksheets & course journal	20%
Final Examination	25%

Participation

Students are expected to attend all classes and all field trips, labs or other course related events. Any assigned readings should be done in advance of the class to which they apply. Students are expected to actively participate in discussions, making reference to assigned readings and materials. In the field students will be assessed on their attentiveness, ability to demonstrate skills and attention to safety and security of themselves and the animals. This course emphasizes teamwork and students' willingness to engage in group work will be reflected in their participation grade.

Throughout this course, instructors will assess students on their participation in labs and activities both in and out of the classroom. To do well on this assessment:

-Be sure to do your best in all labs and activities and complete corresponding handouts and pages in workbook

-Be an active and engaged participant (pay attention during class, volunteer answers, ask questions, etc)

-Be a team player and be helpful to your peers and instructors both in and outside the classroom

-Be prepared and on time for all activities

Please note: this is not an exclusive list. A student's behavior, attitude, and actions throughout their program may have an impact on their Participation and Performance Score.

Presentation

Each student will do a short (20 minutes, including time for questions) presentation (preferably using powerpoint) on 2 topics related to the course (animal profile and zoonotic disease). Depending on the number of students, teams may be used instead of individual reports. Topics and recommended references will be provided. Where appropriate, students will discuss how the topic relates to Belize.

Assignments
Students will keep a course journal for the duration of the course. At the beginning of the course they will outline their goals for this summer course. Why did you choose the course? Why did you come to Belize? What do you hope to learn during these two weeks? Students will also comment on cultural and ethnic differences that they encounter (in relation to anything, but especially in relation to animals (e.g. how they are viewed and treated, what vets do in Belize, etc.) Readings and field experiences will be discussed in the journal. Students are to link their observations to their career goals. For the field trips students will receive work sheets which have to be turned in at the end of each week and will be graded.

Final Exam
The final exam will cover all the material in the course. It will be multiple choice, short answer and/or essay questions.

Time and Commitment

Class sessions and volunteer activities will take up a large portion of your day. This course will cover a large volume of terms, techniques, and information. We expect that you will find the time you invest to be productive and helpful, both in this class and going forward.

Supplies

We have the opportunity to have this course in a field setting that allows for hands-on observation, practice, and study. This setting provides a unique hands-on opportunity to see what you are learning in practice. Each day, please plan to bring the following materials with you in a day pack, backpack, or tote bag: class session materials (coursepack(s) if required, notes, notebook and/or laptop, writing utensils, etc.), wrist watch, snacks, refillable water bottle, insect repellant, and sunscreen. You must wear closed-toed hiking or rubber boots, rain gear, and scrubs or a white lab coat. Your clothes may get dirty or ripped. Students should also have and bring with them each day a stethoscope, a thermometer, and a supply of disposable latex gloves.

Technology

Please ensure that your phone is off during class sessions.