Iowa Wesleyan University

BIO 326: Large Animal Veterinary Practice in the Tropics

Credit Hours: 3 credit hours

Instructor Contact Information
Instructor: Edwardo Tesecum, DVM
Email: edwardobze@yahoo.com

Course Location: C.E.L.A. Belize

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.

Iowa Wesleyan University Mission Statement

Iowa Wesleyan University is a transformational learning community whose passion is to educate, empower, and inspire students to lead meaningful lives and careers.

Iowa Wesleyan University is a historic, faith-inspired, four-year university. The university is affiliated with the United Methodist Church with which it shares a commitment to spiritual values, social justice and human welfare.

IW Life Skills

- **Communication:** Students will show proficiency in acquiring, processing, and transferring information in a variety of ways, including written communication, oral communication, and information literacy.
- **Critical Reasoning:** Students will strategically apply critical thinking and problem-solving skills.

- **Civic Engagement:** Students will develop the knowledge, skills, values, and motivation to actively engage in communities to promote social justice and human welfare.

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

In addition, the following Learning Outcomes will be addressed or assessed as part of the course:

Communication Skills

- Oral Communication: Students will deliver a prepared, purposeful presentation designed to increase knowledge, to foster understanding, or to promote change in the listeners' attitudes, values, beliefs, or behaviors.
- Information Literacy: Students will show the ability to know when there is a need for information, to be able to identify, locate, evaluate, and effectively and responsibly use and share that information for the problem at hand.

Critical Reasoning

- Critical Thinking: Students will design, evaluate and implement a strategy to answer open-ended questions or achieve desired goals.
- Problem Solving: Students will comprehensively explore issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion.

Civic Engagement

- Civic Engagement: Students will demonstrate their ability to make a difference in the civic life of communities and develop the combination of knowledge, skills, values and motivation to make a difference in the quality of life of those communities.
- Global Learning: Students will become informed, open-minded, and responsible people who are attentive to diversity across the spectrum of differences, seek to understand how their actions affect both local and global communities, and address the world's most pressing and enduring issues collaboratively and equitably.

Course Policies

Attendance and Participation Policy

In accordance with the IW Catalog and the IW Undergraduate Student Attendance Policy, students are expected to attend all class meetings for which they are registered. This is regarded as a matter of individual student responsibility. As mandated by federal law, all faculty members are expected to keep accurate records of class attendance. The only excused reasons for absences will be illness that impairs ability to attend and function within the classroom setting; unavoidable personal emergency, or participation in a University-sponsored event.

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.

Diversity and Disability Statement

Iowa Wesleyan values diversity and inclusion; we are committed to a climate of mutual respect and full participation. Our goal is to create learning environments that are usable, equitable, inclusive and welcoming. If there are aspects of the instruction or design of this course that result in barriers to your inclusion or accurate assessment or achievement, please notify me as soon as possible. Students with disabilities are eligible for accommodations to help remove learning barriers in the course.

Academic Honesty

Iowa Wesleyan has developed a strict policy to deal with those students who commit acts of academic dishonesty such as plagiarism and/or cheating. Such acts will not be tolerated in any form by the faculty and staff and will carry stiff penalties. For more information regarding this policy, please consult the most current version of the IW Catalog.

Course Schedule:

THE COURSE SCHEDULE BELOW IS LISTED AS AN **EXAMPLE ONLY:**
ALL DATES AND TIMES ARE SUBJECT TO CHANGE

COURSE READINGS WILL BE ASSIGNED DAILY VIA OUR ONLINE PLATFORM

WEEK 1:

Monday	9am-12pm	Lecture	Overview of course, grading practices, field policies
	1-2pm	Lecture	Introduction to Basic Suture Procedures
	2-4pm	Lecture	Animal Agriculture in Belize
Tuesday	9am-12pm	Lecture	Introduction to Large Animal Physical Examination
	1:30 - 5 pm	Lab	Horses: Physical Exam and diagnostics
Wednesday	9-noon	Lecture	Introduction to Bovine anatomy, physiology, diagnostics
	1:30 - 5	Lab	Field: Beef Cattle
Thursday	6:30 am - 1 pm	Lab	Field: Dairy Cattle
	2:30 - 4:30 pm	Lab	Observe veterinary procedures (cattle)
Friday	8:30-9:30 am	Lecture	Introduction to Deworking & Injections
	10 am - 5pm	Lab	Lab: Deworming and inoculations (horses)
Saturday		Lab	Students participate in a community animal health clinic
Sunday		Lab	Students participate in a community animal health clinic

Week 2

Monday	8:30 - noon	Lecture	Introduction to Animal Health and Reproduction
	1 - 4 pm	Lecture	Introduction to Animal Health and Reproduction
Tuesday	8:30 - noon	Lab	Artificial Insemination field practice and observation
	1 - 4 pm	Lab	Artificial Insemination field practice and observation
Wednesday	8:30 - 9:30 am	Lecture	Introduction to Sheep/Goats Health, Biology
	10-noon	Lab	Practical: Sheep/Goats
	1:30 - 4 pm	Lab	Practical: Sheep/Goats

Thursday	8:30 - 9:30 am	Lecture	Introduction to Swine Health, Biology, Husbandry
	10-noon	Lab	Practical: Swine
	1:30 - 4 pm	Lab	Practical: Swine
Friday	9-noon		Student Presentations
	1-2:30 pm		Exam
	2:30-3:30pm		Course review and evaluations