



Center for Engaged Learning Abroad

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PO Box 177 San Ignacio, Cayo, Belize

Large Animal Veterinary Practice in the Tropics

Course Number: ASCI 2943

Course offered at Sacred Heart College by CELA - Belize

Instructor: Edwardo Tesecum, DVM

Email: edwardobze@yahoo.com

Credits: 3 hours

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 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 READINGS

All course readings will be made available to students, in electronic format, via CELA's online platform. Students with a strong interest in large farm animals are encouraged to purchase one of the books listed below (not required):

Texts:

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

STUDENT ASSESSMENT

Students can take this course for credit (issued by Sacred Heart Junior College in San Ignacio, Belize and accepted by their home institution, generally for 3 credit hours) or they can take it for personal development. For those wishing to receive academic credit for the course or for those wishing to receive a grade for the course and the ability to access a transcript from Sacred Heart College, the following assignments will make up the elements of the final grade. For those wishing to take the course for personal development, you will be expected to participate actively in all discussions, labs and field work and will be asked to complete all field work sheets and to prepare a presentation for the class. Personal development students are also highly encouraged to take the final exam for self-assessment.

The evaluation for the course is based on the following:

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

Participation

Students are expected to attend all classes and all field trips, labs or other course related events. 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.

Presentation

Each student will do a short (20 minutes, including time for questions) presentation (preferably using power point) on 2 topics related to the course (animal profile and zoonotic disease). Depending on numbers 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 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 fieldtrips 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.

SUMMARY

The course consists of 75 hours of contact time over a two week period. Generally, the course meets from 9 am to 5 pm, with an hour break for lunch. Those times are adjusted to ensure maximum field experiences. See the daily schedule for details. The course time is divided as follows:

- Lecture/discussion= 30 hrs
- Laboratory time and field work= 50 hrs
- Total= 80 hrs

**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 CELA'S ONLINE PLATFORM

WEEK 1:

Monday: 9am-12 pm: Introduction to Course
Noon-1pm: Lunch
1pm -2 pm: Introduction to Basic Suture Procedures
Required Reading: *Sissener, Suture Patterns or Niles, Suture Materials and Patterns*
2pm-4pm: Animal Agriculture in Belize

Tuesday: 9am-noon: Introduction to Large Animal Physical Examination
Required Reading: *Frandsen, pp. 1-13, 54-71*
Noon-1pm: Lunch
1pm-5pm: Practical: Horse Physical Exam

Wednesday: 9am-noon: Lecture and Practical Field Work: Beef Cattle

Thursday: 6:30am-2pm: Lecture and Field Work: Dairy Cattle

Friday: 9am – 5pm: Practical: Horses
Required Reading: *Deworming and Inoculations*

WEEKEND ACTIVITY: Community-based Animal Health Clinic (location varies)

WEEK 2:

Monday: 8:30-12pm: Introduction to Animal Health and Reproduction
Noon – 1pm: Lunch
1 pm-4 pm: Introduction to Animal Health and Reproduction cont.
Required Reading: *All sections on cattle in Frandson*

Tuesday: 8:30am-4pm: AI Farm, Central Farm

Wednesday: 7 am – 2pm: Lecture and Field Work: Sheep and Goats
Required Reading: *All sections on sheep in Frandson*

Thursday: 9am – 4 pm: Lecture and Field Work: Pigs
Required Reading: *All sections on pigs in Frandson*

Friday : 9am – noon: Wrap-up and Presentations
Noon - 1pm: Lunch
1 - 2.30 pm: Final Exam
2.30 -3.30: Course evaluation and debrief

Please note: Field trip schedules are subject to change without notice.

CELA POLICIES and RECOMMENDATIONS:

1. CELA is committed to the sustainable development of Belize. You can play a part in that by ensuring that you leave only your footprints behind in Belize. Please do not leave any garbage behind at any classroom or field site. Where you have a choice, CELA encourages students to drink soft drinks from glass bottles (they can be recycled) and not from plastic (they are burned). Please use cloth bags instead of taking plastic bags from stores. Where possible, avoid buying food in Styrofoam containers.
2. CELA values the diversity of its student body, staff and faculty. As such, we are committed to gender-neutral and bias-free language. Everyone is expected to support this policy in written materials and spoken contributions to class sessions.
3. CELA is committed to intellectual and academic honesty. In any assignment, please ensure that you give credit to the original author(s) to avoid any issues of plagiarism.
4. Everyone is expected to participate in the course. Classroom discussions and field experiences benefit from your questions and thoughts.

Note: Any aspect of the syllabus is subject to change up to the start of classes.