



C.E.L.A. BELIZE

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Center for Engaged Learning Abroad

www.celabelize.com

PO Box 177 San Ignacio, Cayo, Belize

Wildlife Health, Ecology and Conservation

Course Number: ASCI 2929

Course offered at Sacred Heart College by CELA - Belize

Instructor: Erica Ward, DVM

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Credit: 3 hours

COURSE DESCRIPTION:

This course is designed for undergraduate students with an interest in wildlife from a pre-vet, biology or conservation perspective. Through a combination of classroom lectures, field trips and practicums, students will be introduced to tropical ecology, local conservation efforts, Belizean wildlife and wildlife research techniques, and zoo and wild animal health issues and medicine. This intensive, introductory course will help students understand the many factors that affect the management, conservation, habitat and health of wild animals.

Students will be based at the Tropical Education Center, located at Mile 29 on the George Price Highway, across the road from the Belize Zoo. There they will have the opportunity to work alongside zookeepers in the world renowned Belize Zoo. The central focus of the course is on wildlife conservation and research methods. Species specific focus will include the research and conservation of the jaguar (*Panthera onca*), puma (*Puma concolor*), tapir (*Tapirus bairdii*), jabiru stork (*Jabiru mycteria*), howler monkey (*Alouatta pigra*), spider monkey (*Ateles geoffroyi*) and the green iguana (*Iguana iguana*). Students will gain insight on several field research techniques including specialized leg hold traps, cage traps, GPS and VHF tracking, camera trapping, chemical immobilization and remote drug delivery, avian mist netting, bird banding, and nest searching and monitoring. Students will also get the opportunity to observe and collect data on captive and wild animals and to assist in wildlife veterinary situations, as appropriate and when available.

COURSE OBJECTIVES:

At the end of the course students will be able to:

- Discuss, in general terms, ecology and conservation in Belize;
- Discuss general issues related to wildlife, particularly in Belize;
- Understand the role and purpose of zoos as they relate to conservation;
- Discuss the ecology and conservation of key wildlife species including the jaguar, jabiru stork, tapir, and howler and spider monkeys; and

- Discuss various wildlife research techniques and understand the role of different methods in wildlife research and conservation.
- Become familiar with general health issues facing wildlife.

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 wildlife conservation are encouraged to purchase one of the books listed below (not required):

Texts:

Barcott, Bruce. The Last Flight of the Scarlet Macaw, 2008. New York: Random House.
 Beletsky, Les. Travelers' Wildlife Guides Belize and Northern Guatemala, 2005;
 Interlink Publishing Group, Inc. ISBN 1-56656-568-5
 Rabinowitz, Alan. Jaguar: One Man's Struggle to Establish the World's First Jaguar Preserve.

REQUIRED EQUIPMENT

Each student should bring a small supply of disposable latex gloves, rubber boots as well as rain gear, a headlamp with extra batteries, a towel and a water bottle. In addition, please have a supply of bug repellent, sunscreen and anti-itch ointment/cream.

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	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 presentation (preferably using power point) on a topic related to the course. 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. More details will be provided during class.

Assignments

Students will receive specific short assignments for field trips.

Final Exam

The final exam will cover all the material in the course. Format and details to follow in class.

SUMMARY

The course consists of 75 hours of contact time over a two-week period. Those times are adjusted to ensure maximum field experiences. See the daily schedule for details. The course time is divided as follows:

- Lecture/discussion= 25 hrs
- Laboratory Time and Field Work= 60 hrs
- Total= 85 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: Introduction to Wildlife Issues

- 9:00am-9:45am: Lecture: Wildlife of Belize: Overview and course schedule
- 10:00am-10:45am: Lecture: Wildlife Conservation
- 11:00am-11:45am: Lecture: Ecosystems and Wildlife
- 12:00pm-1:00pm: Lunch
- 1:15pm-2:00pm: Lecture: Wildlife Research Methods
- 2:15pm-3:00pm: Lecture: Wildlife Veterinary Medicine

3:15pm-4:00pm: Lecture: The Role of Zoos in Conservation
4:00pm-4:45pm: Field: Nature Walk
5:00pm-5:45pm: Lecture: Introduction to Belize Zoo: History and Philosophy
7:00pm-9pm: Field: Belize Zoo Night Tour Field Experience

Tuesday: Wildlife Captive Care

8:00am-4:00pm: Field: The Belize Zoo Animal Care (clinical cases participation)

Wednesday: One Health and Conservation

9:00am-10:00am: Lecture: One Health approach
10:00am-11:15am: Lab/Field: Conservation medicine discussion/project development
11:30am-12:15pm: Lecture: Remote drug delivery
12:30pm-2:00pm: Lunch
2:00pm-4:00pm: Practical: Remote Drug Delivery practical session
4:00pm-5:30pm: Field: Zoo observation

Thursday: Wildlife Research Methods

5:00am-7:30am: Field: Bird Studies
7:30am: Breakfast
9:00am-10:00am: Lecture: Use of Maps and GPS data
10:00am-12:00pm: Field: Wildlife Tracking and scat collection (deer and carnivores)
12:30pm: Lunch
1:30pm-3:00pm: Field: Radio Telemetry tracking
3:30pm-4:30pm: Field: Camera Traps (setup and use)
4:30pm: Field: Jungle Walk and Caves

Friday: Community Wildlife Conservation

8:30am-9:30am: Lecture: Discussion of current readings on Community Baboon Sanctuary (CBS)
10:00am-12:00pm: Field: Visit to CBS
12:30pm: Lunch
1:30pm-4:30: Field/Lab/Practical: Behavior and research studies at CBS

WEEKEND ACTIVITY: Wildlife Ecology Field Trip / Beach Student Break

WEEK 2:

Monday: Ornithology (Birds of Belize)

5:00am-9:00am: Field: Mist nesting
10:00am-12:00pm: Lecture: Birds of Belize
12:30pm: Lunch
1:30pm-2:30pm: Lecture: Raptors of Belize
2:30pm-3:30pm: Field: Scarlet Macaw Project

3:30pm-5:30: Field: Behavior study of birds in captivity

Tuesday: Field Activities

8:30am-5:00pm: Field Work: Subject area conditional upon season

Wednesday: Field Activities

8:30am-5:00pm: Field Work: Subject area conditional upon season

Thursday: Mammal/Carnivore Conservation

8:00am-12:00pm: Field: Tapir or carnivore procedure/field experience

12:30pm: Lunch

1:30pm-3:00pm: Lecture: Tapir conservation

3:30pm-4:30pm: Lecture: Overview of Mammals: Issues with Captivity/Conservation

4:30pm-5:30pm: Lecture/Video: Jaguar Conservation

Friday: Course Review / Presentations / Final Exam

8:30am-9:30am: Lab/Practical: Review of data collected from camera traps

9:30am-10:30am: Lab/Practical: Review of data collected in the community

10:30am-12:30pm: Presentations

12:30pm: Lunch

1:30pm-3:30pm: Course Review / Final Exam

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.