



## Center for Engaged Learning Abroad

### Wildlife Health, Ecology and Conservation

Course Number: ASCI-2929

Course offered at Sacred Heart College by CELA-Belize

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Credit: 3 hours

#### **COURSE DESCRIPTION:**

This 10 day 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 available in an electronic format on the CELA e-campus. Please see the reading assignments in the course schedule and make sure to have completed the required reading before the course dates in order to be able to participate in discussions and lab practices.

Recommended 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 (TWG)

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 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 from Sacred Heart College, or for those wishing to receive a grade for the course and the ability to access a letter of completion from CELA showing that grade, 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, but will not be asked to write the final exam and no grade will be recorded for you. Students wishing credit to be issued by a U.S. accredited university, please contact Cynthia Reece, [creece@celabelize.com](mailto:creece@celabelize.com).

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. 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.

### Presentation

Each student will do a short presentation (preferably using power point) on a topics 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. Generally, the course meets Monday to Friday 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= 15 hrs
- Laboratory time= 10 hrs
- Field work = 50 hrs
- Total= 75 hrs

### **Course Schedule and Required Readings on next four pages**

**Wildlife Schedule – SUBJECT TO CHANGE**

<b>Date</b>	<b>Activities</b>	<b>Location</b>	<b>Readings</b>
<b>ARRIVAL</b>	Transfer from airport to TEC Welcome dinner at TEC	<b>Tropical Education Center (TEC)</b>	
	CELA Orientation (Health, Safety, Bz History & Culture)  Afternoon – optional excursion	<b>TEC</b>	
<b>Day 1 Introduction to Wildlife Issues</b>	<b>Breakfast</b>	<b>TEC</b>	Daily breakfast and dinner at TEC are included in the program.
9:00- 9:45 AM - Wildlife of Belize: Overview and course Schedule	<b>Lecture</b>	<b>TEC</b>	
10:00-10:45 AM Wildlife Conservation	<b>Lecture</b>	<b>TEC</b>	<b>5</b>
11:00-11:45 AM Ecosystems and Wildlife	<b>Lecture</b>	<b>TEC</b>	<b>12</b>
12:00-1:00 PM LUNCH			
1:15:-2:00 PM Wildlife Research Methods	<b>Lecture</b>	<b>TEC</b>	<b>3</b>
2:15-3:00 PM Wildlife Veterinary Medicine	<b>Lecture</b>	<b>TEC</b>	<b>1,2,4</b>
3:15-4:00 PM The Role of Zoos in Conservation	<b>Lecture</b>	<b>TEC</b>	<b>6,8</b>
4:00-4:45 PM Nature Walk		<b>TEC field</b>	
5:00PM - Introduction to the Belize Zoo: History and Philosophy	<b>Lecture Sharon Matola</b>	<b>Belize Zoo</b>	<b>7,8,9</b>
7:00PM - Night Tour of Belize Zoo	<b>Field Activity</b>	<b>Belize Zoo</b>	
<b>Day 2 Wildlife Captive Care</b>			

8:00 AM- 4:00 PM The Belize Zoo Animal care –all day	<b>Field Activity- Clinical Cases Participation</b>	<b>Belize Zoo</b>	<b>Lunch at Zoo</b>
<b>Day 3</b>			
9:00 AM- 10:00 AM ONE Health Approach	<b>Lecture</b>	<b>TEC</b>	<b>10</b>
10:00-11:30 am Conservation medicine discussion and project development		<b>TEC</b>	
11:00-12:15 am Remote Drug Delivery lecture	<b>Lecture</b>	<b>TEC</b>	
12:30-2:00pm	<b>LUNCH</b>	<b>Belize Zoo</b>	
2:05-4:00 pm Remote Drug Delivery practical session	<b>Practice</b>	<b>Belize Zoo</b>	
Activity at zoo	TBD		
<b>Day 4 Wildlife Research Methods</b>	<b>Thurs, Dec. 31</b>		
5:00 am-6:30 am Early Morning Birdwatching		<b>Tropical Education Center (TEC)</b>	
7:30 am Breakfast		<b>TEC</b>	
9:00 am Use of Maps and GPS data	Demonstration and Practice	<b>Runaway Creek Nature Reserve (RCNR)</b>	
10:00 am Wildlife tracking and scat collection (deer and carnivores)	Demonstration and Practice	<b>RCNR</b>	
12: 30 pm Lunch picnic	<b>Lunch</b>	<b>RCNR</b>	
1:30 pm Radio telemetry tracking	Demonstration and Practice	<b>RCNR</b>	
3:30pm Camera Traps - use of and setting them up	Demonstration and Practice	<b>RCNR</b>	
4:30 pm Jungle Walk and caves		<b>RCNR</b>	
<b>Day 5 Community Wildlife Conservation</b>			

8:30 am Discussion of readings on Community Baboon Sanctuary (CBS)		<b>Community Baboon Center(CBS)</b>	
10:00 Visit to CBS guided tour	<b>CBS Staff</b>	<b>CBS</b>	
12:30 pm Lunch	<b>CBS women's group</b>		
1:30 Behavior and research study at CBS		<b>CBS</b>	
<b>Day 6 Community outreach-</b>			
9:00 am- 1:00pm Vaccination of dogs and cats near reserves RCNS or other		<b>RCNS or CBS or other</b>	<b>Participation in the weekend activities is optional.</b>
Simultaneously Questionnaires to community about wildlife and human interaction issues (data collection)			
<b>Day 7 day off for students to travel</b>			<b>Or volunteering at zoo</b>
<b>Day 8 (Monday) ORNITHOLOGY - Birds of Belize</b>			
5:00 am-9:00am Early morning mist netting (breakfast to go)		<b>RCNR</b>	
10:00 am Introduction to Birds of Belize		<b>TEC</b>	
12:30 Lunch		<b>TEC</b>	
1:30 Raptors of Belize		<b>TEC</b>	
2:30 Scarlet Macaw Project		<b>TEC</b>	
3:30 Behavior study birds in captivity		<b>Belize Zoo</b>	
<b>Day 9 FIELD ACTIVITIES</b>			
WINTER Course	Audubon Annual Christmas Bird Count		
SUMMER Course	Activity TBD		
<b>Day 10 FIELD ACTIVITIES</b>			

Animal Tracking	Demonstration and Practice	RCNR	
Collection and analysis of animal scat		RCNR and TEC	
<b>Day 11 Mammal Conservation (carnivores)</b>			
8:00 am Tapir or Carnivore procedure		<b>Belize Zoo</b>	
Procedure		<b>Belize Zoo</b>	
12:30 pm Lunch		<b>Belize Zoo</b>	
1:30 pm Tapir Conservation- lecture		<b>Belize Zoo</b>	
3:30 pm Overview of Mammals: Issues in Captivity, Conservation Issues			
4:30 Video Jaguar Conservation	<b>Video</b>		
<b>Day 12 Course review and Presentations</b>			
8:30 am Review of data collected camera traps		<b>TEC</b>	
9:30 am Review of data collected in community		<b>TEC</b>	
10:30 Presentations		<b>TEC</b>	
Final examination		<b>TEC</b>	
Review of course; Course and faculty evaluations	CELA	<b>TEC</b>	
<b>SATURDAY</b>			
Departure for US or transfer to another course	<b>Time TBD</b>		

**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). Belikin and Stout beer bottles are recycled but Lighthouse bottles are not. 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.