Iowa Wesleyan University

BIO 327: Wildlife Health, Ecology and Conservation

Credit Hours: 3 credit hours

Instructor Contact Information
Instructor: Erica Ward, DVM Email: eward@celabelize.com

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

Required Text:
All course readings will be made available to students, in electronic format, via our online platform. Students with a strong interest in wildlife conservation are encouraged to purchase one of the books listed below (not required):

Texts:

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

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 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 Goals and Learning 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.

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

<u>Communication Skills</u>

- 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:

Grading Scale:

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

The evaluation for the course is based on the following:

Participation in discussions, labs and field work	30%
Presentation	25%
Field trip worksheets	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, referring 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 presentation (preferably using powerpoint) on a topic related to the course. 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. 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 will be described in class.

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 student should be prepared for a variety of weather and field conditions. Loose fitting clothing with long sleeves and pants are essentially for dealing with insects. In addition, 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 repellant, sunscreen and anti-itch ointment/cream. Please refer to the equipment list provided with pre-course paperwork and ask if there are any questions/concerns.

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 the instructor 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

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 ACTIVI-TY: Wildlife Ecology Field Trip and Student Break

<u>WEEK 2:</u>

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