



UNIVERSITY OF NORTHERN COLORADO

Extended Campus

College of Natural & Health Sciences
School of Biological Sciences

BIO 339-602: Marine Biology Lab in Belize
Spring 2019

GENERAL INFORMATION

Professor: Dr. Ginger Fisher
Class Time: March 8-17

Location(s): Blue Creek Field Station, South Water Caye Field Station, Belize
Email: Ginger.Fisher@unco.edu

PREREQUISITE & CO-REQUISITE

Students taking this course will have completed BIO 110 (Principles of Biology). Students must also enroll in the co-requisite, BIO 338 (Marine Biology).

COURSE DESCRIPTION

An intensive field experience in Belize, which introduces participants to tropical marine habitats and the terrestrial environment. Course occurs during spring break.

OBJECTIVES

The student will be able to:

1. Identify marine species common to Belize
2. Analyze and present his/her analysis of primary literature in the field
3. Design and carry out field-based marine biology experiments
4. Create research reports based on data he/she has collected

TEXT

Kaplan, E.H. 1982. Coral Reefs, Peterson Field Guide (optional)

Kaplan, E.H. 1988. Southeastern and Caribbean Seashores, Peterson Field Guide #36. (optional)

EVALUATION

Journal Discussion	10%
Participation	10%
Lab Manual	35%
Experimental Design	15%
Lab Report	30%

GRADE BREAKDOWN

90-100%	A
80-89%	B
70-79%	C
60-69%	D

LAB MANUAL

Students will be provided with a packet of materials and questions related to the activities performed while on site. It is expected that each student will accurately answer the questions while carrying out the various activities. The lab manual will be due Friday, March 29th.

JOURNAL DISCUSSION

Students will be divided into groups of 3-4 to lead the discussion of their assigned journal article. The articles will be provided before we leave the US and will be discussed on site. Each group of students must summarize and analyze the overall science behind the article and lead a question and answer session with the other students in the course. Each group member is expected to participate fully in leading the discussion and I encourage you to determine individual responsibilities before the discussion begins. Feel free to be creative in how you lead the discussion. For those NOT leading that particular discussion, it is expected that you have read the assigned article and actively contribute to the overall discussion (see participation grade).

PARTICIPATION

Each student is expected to participate in all activities while at the field site. This includes all journal discussions, lectures, meals, snorkeling trips and all field work. If you feel that you are unable to participate in a particular activity, due to illness or physical limitations, please let Dr. Fisher know immediately.

RESEARCH PROJECTS

Students will be divided into groups of 2-3 to design and carry out a research project on site. During the first few days, each pair will design their collective experiment and hand in a Research Proposal that outlines the project. The Research Proposal must include the protocol, the relevant background information and a materials list (a rubric for this is provided at the end of the lab manual). One Research Proposal will be submitted per group. Each proposal must be approved by the instructor before the experiment can be carried out. Once the experiment has been conducted, each individual will write a Lab Report based on the data collected during the experiment. The Lab Report must include the relevant background information, a methods section, a results section and a discussion with an analysis of the results. A rubric for this is provided at the end of the lab manual.

ACADEMIC INTEGRITY

As members of a scholarly community dedicated to healthy intellectual development, students and faculty are expected to share the responsibility for maintaining high standards of honesty and integrity in their academic work. All material for this course must be your work and no one else's. Cheating or plagiarism in any form will not be tolerated. This includes, but is not limited to, copying someone else's work, and using banned material while taking exams. The penalty for cheating or plagiarism is a zero for the course.

Honor Code: all members of the University of Northern Colorado community are entrusted with the responsibility to uphold and promote five fundamental values: Honesty, Trust, Respect, Fairness, and Responsibility. These core elements foster an atmosphere, inside and outside of the classroom, which serves as a foundation and guides the UNC community's academic, professional, and personal growth. Endorsement of these core elements by students, faculty, staff, administration, and trustees strengthens the integrity and value of our academic climate.

Disability Resources

It is the policy and practice of the University of Northern Colorado to create inclusive learning environments. If there are aspects of the instruction or design of this course that present barriers to your inclusion or to an accurate assessment of your achievement (e.g. time-limited exams, inaccessible web content, use of videos without captions), please communicate this with your professor and contact Disability Support Services (DSS) to request accommodations. Office: (970) 351-2289, Michener Library L-80. Students can learn more about the accommodation process at <http://www.unco.edu/disability-support-services/>.

UNC's Policies

UNC's policies and recommendations for academic misconduct will be followed. For additional information, please see the Dean of Student's website, Student Handbook link <http://www.unco.edu/dean-of-students/pdf/student-Code-of-conduct.pdf>.

Special Term/Short Course

Special Term Courses do not meet during a typical semester (begin or end earlier or later), these courses have different add/drop/withdrawal dates. It is the responsibility of the student to be aware of these dates. Please refer to “special term/short course deadlines” from this link: <http://www.unco.edu/registrar/current-students/course-add-drop.aspx>, to learn the dates for this course. To drop or withdraw, you must contact the Registrar’s Office at 970-351-2231.

TENTATIVE SCHEDULE

	Friday March 8	Saturday March 9	Sunday March 10	Monday March 11	Tuesday March 12	Wednesday March 13	Thursday March 14	Friday March 15	Saturday March 16	Sunday March 17
Morning	Travel	Monkey Hike	Ethnobotany Hike	Lubaantun Mayan Ruins and Garifuna Drumming Performance	Tobacco Cut Snorkel and beach profile	Bird Island snorkel	Four channel reef snorkel	Aquarium Snorkel	Twin Caye Mangrove Snorkel	Travel
Afternoon	Travel	Iguana Hike	Cave snorkel and swim	Travel	Patch Reef south end snorkel	Seagrass ecology east and west side, Rocky shores	Research projects, Cassiopea pulse rate	Patch Reef south end snorkel	Seagrass population density, Fouling communities	Travel
Evening	Arrive at Blue Creek Field Station	Lecture and Journal Discussion #1	Lecture and Night Hike	Arrive at South Water Caye, Seagrass snorkel	Sand analysis and journal discussion #2	Research projects design and journal discussion #3	Night snorkel and journal discussion #4	Research projects and journal discussion #5	Research Projects	Travel