

SCI199V – Environmental Issues in Tropical Ecosystems

Hawai'i Community College, Summer 2019

Course Runs May 23-31 st in Belize

CRN: 19880 (3 credits)

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Office: STEM Center Building 396A-2

Office Hours: by appointment

Course Description:

SCI199V is a three credit hour course that provides an interdisciplinary study of issues in tropical environments. The natural ecology of a terrestrial rainforest ecosystem, a coastal mangrove swamp ecosystem, and an offshore barrier reef ecosystem will be studied. The alterations of these ecosystems by human activities will be examined. Further, the social, political, and economic reasons surrounding both the exploitation and the conservation of these systems will be investigated. Sustainable resource extraction from these ecosystems will be explored and compared to the consequences of biodiversity loss, societal issues, and ecological footprinting.

Course participants will be expected to observe aspects of Belizean culture and interact with Belizean guides and Belizean hosts. This course may include both pre-departure and post-trip components, some of which may be web-based. Note: You must successfully complete an application process as part of the pre-departure component. A significant portion of this class will occur in the water. Therefore all students must be proficient swimmers.

Course Outcomes:

Upon completion of the course the student should be able to:

1. Understand the basic scientific principles of tropical terrestrial and marine ecosystems.
2. Interact with citizens of nations in tropical locations and experience first-hand the complex sociological and economic issues of land use, resource extraction, and poverty.
3. Comprehend the difference between ecological footprinting and sustainability.
4. Perceive how environmental degradation and biodiversity loss are interconnected, and how these concepts affect both the local human population and our global society.
5. Recognize the components, interactions, and flow of energy and matter through all terrestrial and aquatic ecosystems studied.
6. Meet all additional costs attached to this course.

Pre-requisites: College-level reading, writing, and mathematics skills are required (whether you have taken preparatory classes or have opted not to take them).

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Textbooks:

1. Jolly, K and McRae, E., The Environment of Belize, Our life support system,

Cubola Productions 1998. Note: this book will be provided.

2. Barcott, B. The Last Flight of the Scarlet Macaw, Random House Publishers, 2008. ISBN # 9781400062935 Required

3. Beletsky, Les. Belize & Northern Guatemala: The Traveler's Wildlife Guide (A Volume in the Ecotraveler's Wildlife Guides Series) , Academic Press. 2004. ISBN# 978156656684 Optional

Additional Requirements:

1. Valid U.S. Passport (and/or other supporting documentation if not a U.S. Citizen)
2. Valid travel health Insurance.
3. Meet any other requirements for travel to Belize as advised by the U.S. State Department (including up-to-date immunizations).
4. Have the ability to swim.

Attendance Policy: Daily class attendance will be taken. It is the student's responsibility to make up for any missed work. Attendance will be taken into consideration when determining borderline grades. If you are excessively late, leave excessively early, or do not attend an activity, you will be marked absent. "Attendance" is mandatory for important logistical arrangements and other concerns at the proposed pre-trip meetings.

Instructional Methods: This course provides hands-on field experience in tropical terrestrial and marine ecosystems. Instruction will include a lecture component and a field study component. Students will familiarize themselves with the flora and fauna of Belize. Students will conduct investigations of selected animal and plant species native to Belize. Students will keep a field journal and will take notes and make illustrations whenever appropriate. Students will also experience a different culture through their interactions with Belizeans, including eating the food. Emphasis will be placed on the connection between anthropogenic environmental degradation and loss of biodiversity. Students will attend guest lectures.

Grading Scale:

Average of 90-100 A Average of 80-89.9 B

Average of 70-79.9 C Average of 60-69.9 D

Average below 60 F there is NO EXTRA CREDIT AVAILABLE

Take-home essay questions/exam = 200 pts.

Field journal = 50 pts.

Research project* = 50 pts.

Research project poster* = 25 pts.

Class participation = 25 pts.

Scrapbook contribution* = 25 pts.

Reflection Essay = 25 pts.

400 pts. Total

* = group project.

Grade Determination: An average grade will be calculated from the exams and/or writing assignments and research projects given during the semester, plus any additional assignments upon return. Final grades will be posted on Laulima. Grades will not be released via email or over the telephone. Retain this syllabus for the duration of the course. You will need to refer to

it often as you are responsible for understanding and complying with these policies.

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Take-home Essay Questions/Exam: There will be multiple take home essay questions on the readings from the required textbooks and other relevant travel activities. The total of all the questions will equal one exam. The results of any question should not be considered absolute. The instructor may require the students to take another exam covering the same material where questions concerning the validity of the results are present. The original test will be given a zero grade. Any take home test question, group project report, post trip outreach project or field journal turned in late will result in a 50% grade reduction. NOTE: None of the above will be accepted after I have returned the graded materials back to the rest of the students in the class.

Field Journal: You will be keeping a field journal the entire time you are in Belize and will be graded on the work you do in your field journal. Consult the Field Journal guideline notes. Due: June 21.

- a. Handwritten additions to provided (required) outlines.
- b. Refined notes on 50 different organisms.

Research Project with poster of completed research project results: Complete a short research project using the scientific method, and complete a poster showcasing your results. Due: June 21.

Reflection Essay and Scrapbook Addition: You will complete a short, 2-page, double-spaced reflective essay about how the Program affected you, plus 1-2 pages contribution to a group scrapbook that should contain at least 3 to 5 photographs from your experience that can be used as outreach. Due: June 21.

Class Participation: A tentative list of activities includes the following:
3 pre-departure meetings.

Day 1- evening powerpoint presentation.

Day 2- birding, morning field observation, medicinal plant hike, evening powerpoint presentation, night spotting.

Day 3- birding, morning field activity, afternoon field activity, evening powerpoint presentation.

Day 4- birding, trip to Lamanai, evening powerpoint presentation.

Day 5- Travel

Day 6- morning snorkel check, afternoon snorkel, evening powerpoint presentation (?)

Day 7- morning snorkel, afternoon snorkel, evening powerpoint presentation (?)

Day 8- morning snorkel, afternoon snorkel, evening powerpoint presentation (?)

Day 9- travel

Detailed Course Schedule: T.B.A. See separate Itinerary provided by Programme for Belize. We arrive in Belize on May 23 and leave on May 31.

Academic Dishonesty Policy: In the event that a student violates any provision of the Hawaii Community College policy on academic integrity, as specified in the HCC Student Handbook, the instructor reserves the right to assign whatever grade for the course the instructor judges to be appropriate, including a grade of F, without regard to the student's accumulated points. It is

the student's responsibility to be familiar with the policies of the college regarding academic integrity and to avoid violating these policies.

Request for Accommodations: Any student whose disability falls within the American Disabilities Act (ADA) and requires accommodations should contact the Office of Services for Students with Disabilities on their home campus.