



## Center for Engaged Learning Abroad

[www.celabelize.com](http://www.celabelize.com)

PO Box 177 San Ignacio, Cayo, Belize

### **One Health: Public Health in the Tropics**

Course Number: BIO2934

Course offered at Sacred Heart College by CELA – Belize

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Credit: 3 hours

#### **COURSE DESCRIPTION:**

This course explores the intersections of health, medicine, economics and social development in the Tropics, with Belize as the focus. Emphasis is placed on the scientific, intercultural, and social aspects of global health, tropical medicine, public health, ethno-biology, and the environment. Students will also examine policy issues, conditions and determinants of public health and health policy in international health and acquire an introduction to tropical diseases and review the strategies used to respond to these diseases in resource-limited settings. Finally, students will learn to approach health in its wider social, economic and political context and acquire a basic understanding of the intimate, interdependent relationship between health and development processes. Lectures, readings from primary literature, field-based learning and group discussions are also integral components of the program and provide the conceptual framework for discussion, analysis, and interpreting field observations and findings.

#### **COURSE OBJECTIVES:**

By the end of this course, the student will be able to demonstrate a basic understanding of the concepts and principles of One Health in general and Belize in particular. Upon successful completion of the course, the student will be able to:

- Describe the major issues and challenges in human, animal, and environmental health and disease in Belize and globally.
- Be familiar with the concepts and terminology of international health and disease.
- Be able to approach health within a broad social, economic, environmental, and political context.
- Attain a basic understanding of the interdependent relationship between health and development processes
- Identify mortality and morbidity in the Tropics
- Demonstrate knowledge of health concerns in Belize by ethnic and economic status

#### **COURSE READINGS:**

All course readings will be made available to students, in electronic format, via CELA's online platform.

## **REQUIRED EQUIPMENT:**

Comfortable shoes and rain gear. Boots for farm visits are recommended, but not required.

## **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	25%
Presentation	25%
Field trip work sheets & course journal	25%
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, attention to safety and awareness of cultural practices. 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 (20 minutes, including time for questions) 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. All topics are to be approved in advance by the course instructor(s).

### **Journal**

Students will keep a daily journal for the duration of the course. The journal will serve as a reflection of each day's activities. Students will be expected to write a summary of what they learned each day and how it relates or differs to teachings, standards and/or health processes back home.

### **Final Exam**

The final exam will cover all the material in the course. It will be multiple choice, short answer and/or essay questions.

## **SUMMARY**

The course consists of 75 hours of contact time over a two week period. Generally, the course meets 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= 40hrs
- Laboratory Time and Field Work= 30 hrs
- Total= 70 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 the Course**

- 9:00am-10:45am: Lecture: What is health? What is global? What is the “tropics”?
- 11:00am-12:00pm: Field: Tour of Belize private hospital system
- 12:30pm-1:30pm: Lunch
- 1:30pm-4:30pm: Field: Farm Orientation / River Ecology (One Health focus)
- 6:00pm-7:30pm: Lecture: Guest speaker, “Overview of Health in Belize” – Director of Health Services

**Tuesday: Healthcare in Developing Countries**

- 9:00am-11:00am: Lecture: General overview of Health in Belize, Maternal/child Health, Economics of healthcare in developing countries
- 11:00am-12:00pm: Field: Walking tour of local community/neighborhood
- 12:00pm-1:00pm: Lunch
- 1:30pm-3:00pm: Lecture: Guest speaker, Community Health Worker
- 3:00pm-5:00pm: Lecture: Guest speaker, Traditional Birth Attendant

**Wednesday: Social Determinants of Health**

- 8:00am-9:00am: Field: Local medicine man/woman visit
- 9:00am-10:30am: Lecture: Guest speaker, Local medicine healer
- 10:30am-12:00pm: Lecture: Epidemiology of health in Belize, health in Belize indigenous communities, Traditional/cultural attitudes and approaches to health and disease (how do custom and culture affect disease and health?)
- 12:00pm-1:00pm: Lunch
- 1:30pm-4:00pm: Field: Medical Garden w/ Traditional Healing Plants and talk with local healer
- 4:00pm: Professor Review: Cultural impacts on One Health

**Thursday: Vectorborne and Zoonotic Diseases**

- 9:00am-12:00pm: Lecture: “Tropical” Diseases (Malaria, Chagas, Dengue, Chikungunya, Ebola, etc), Emerging Infectious Diseases
- 12:00pm-1:00pm: Lunch
- 1:30pm-4:30pm: Field/Lab: Surveillance of Infectious Diseases at Vector Control Unit of local hospital

**Friday: Waterborne and Foodborne Illness**

- 8:30am-9:30am: Lecture: Guest speaker, Chief Agricultural Officer

- 10:00am-12:00pm: Lecture: Burden of waterborne and foodborne illness in Belize (food safety, mosquito control, water sampling, clean water projects, etc)
- 12:00pm-1:00pm: Lunch
- 1:30pm-5:00pm: Lecture/Lab: Belize Agricultural Health Authority (BAHA)

**WEEKEND ACTIVITY:** Field Trip / Student Break

**WEEK 2:**

**Monday: Communicable Diseases**

- 9:00am-12:00pm: Lecture: Communicable diseases particularly relevant to Belize (HIV, TB, Cholera, Influenza, etc). Discussion of global health interventions by examining case studies. Are they successful? Why or why not?
- 12:00pm-1:00pm: Lunch
- 1:30pm-2:30pm: Lecture: Guest speaker, HIV/AIDS in Belize
- 3:00pm-4:30pm: Field/Lab: Tour of Belize public hospital system

**Tuesday: Control of Disease**

- 9:00am-12:00pm: Lecture: Outbreak investigations, disease prevention, zoonotic diseases, vaccines and their implementation, health and sex education
- 12:00pm-1:00pm: Lunch
- 1:30pm-4:00pm: Field: Farm field experience (Animal, human, and environmental health and how the three disciplines relate to form “One Health”)
- 5:00pm-6:30pm Lecture: Guest speaker, vaccinations in Belize

**Wednesday: Public Health Policy – Belize City**

- 7:00am: Depart San Ignacio for Belize City
- 9:30am-10:30am: Field: Pan American Health Organization (PAHO)
- 10:45am-12:00pm: Field: National Drug Council
- 12:00pm-1:30pm: Lunch
- 1:30pm-2:45pm: Field: Belize Family Life Association (BFLA)
- 3:00pm-4:30pm: Field: National AIDS Commission

**Thursday: Preventable / Non-communicable Health & Disease (Global Impact)**

- 9:00am-12:00pm: Lecture: Global burden of disease / Leading causes of (preventable/non-communicable) deaths in the world (Heart Disease, Stroke, Respiratory infections, diarrhea, HIV/AIDS, Diabetes, Road traffic accidents)
- 12:00pm–1:00pm: Lunch
- 1:30pm-5:00pm: Field: Farmer’s market activity (Diabetes meal planning and preparation using locally sourced ingredients)

**Friday: Course Review / Presentations / Final Exam**

- 9:00am-12:00pm: Exam review, presentations
- 12:00pm-1:00pm: Lunch
- 1:30pm-3:00pm: Final Exam
- 3:00pm-4:00pm: Course Review and Evaluations

## **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.