

# Tropical Marine Biology

## Short Term Field Program 2017

### Program Objectives:

The purpose of this program is to expose exchange students to:

- General comprehension of the concepts and issues addressed in marine biology.
- Costa Rican marine ecosystems, biodiversity and environmental issues through field trips and fieldwork in coral reefs, sandy and muddy beaches, mangroves and estuaries.
- The importance of Integrated Coastal Management.

### On-Line Contents:

1. The Region: Biogeography of Central American Isthmus Marine and coastal environments in Costa Rica
2. Introduction to Tropical Marine Biology and geology
3. Physical and Chemical Oceanography
4. Reef Fish Count
5. Interstitial Zones
6. Global Change Impact on Marine Life

### On-Line Evaluation:

Readings and research	10%
On-line material synopsis test	25%

### On-Site Contents & Itinerary:

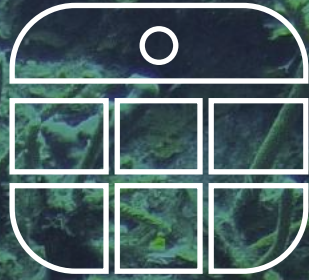
Note: Due to the intensity of the program, students have to study all readings and materials before their arrival and during their free time. Furthermore, students will develop a final presentation (max. 15 minutes) on previously established topics concerning marine animals, ecosystems and management issues, which will be presented to the class during the last days. Each group can prepare their topic before their arrival; however, emphasis is on on-site documentation and interviews with local people. Each topic will be addressed throughout the entire field trip by the professor, but students are expected to deepen their knowledge whenever possible, by asking the teacher, guides, community members, etc. and document their observations with own photos. The goal of this evaluation is to train students in on-site research and documentation to address and solve a particular problem. Students will evaluate the other student's presentation as well as their own. Topics will be shared with the students during the on-line courses.

The final exam constitutes an oral evaluation on the topics presented. The teacher will evaluate each answer together with the group who presented a particular topic and on which content students of other groups were evaluated.

### On-Site Evaluation:

Thematic presentation	10%
Final online exam	25%





# TENTATIVE SCHEDULE



# Tropical Marine Biology

## Short Term Field Program 2017

### Day 1 - Jan 8th

#### Sunday Activities: Arrival

### Day 2 - Jan 9th

#### Monday Activities: Curú - 3 Days

7:30 Breakfast

9:00 Departure to Curú Wildlife Reserve

On the way: Field session overview

12:00 Lunch

14:00 - 16:00 Online synopsis exam. Classes: CORAL REEF AND MARINE INVERTEBRATES. Review Online Guides

18:00 Dinner

### Day 3 - Jan 10th

#### Tuesday Activities

7:00 Breakfast

8:30 Scuba or Snorkeling trip to Isla Tortuga; Fish count and artificial reefs

12:00 Lunch

14:00 - 16:00 Classes: MARINE ECOLOGY AND PLANKTON

18:30 BIOLUMINESCENCE TOUR

Dinner

### Day 4 - Jan 11th

#### Wednesday Activities

7:00 Breakfast

8:30 Introduction to Fisheries: Responsible Fisheries Area Paquera - Tambor

12:00 Lunch with Fishermen

14:00 - 16:00 Classes: SUSTAINABLE MANAGEMENT OF NATURAL RESOURCES: LUIS SCHUTT

18:30 Dinner

### Day 5 - Jan 12th

#### Thursday Activities: Playa Grande - 2 Days

7:00 Breakfast

12:00 Lunch

13:00 Introduction to the History of National Park Playa Grande; Resreach Projects; The Leatherback Trust

Classes: SEA TURTLES

18:00 Dinner

19:00 Sea Turtle Patrolling with ASOCABE (Leatherback Turtles)

### Day 6 - Jan 13th

#### Friday Activities

7:30 Breakfast

8:30 Beach clean-up and Classification, Research

12:00 Lunch

15:00 Reseach projects with TLT

18:00 Dinner

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### Day 7 - Jan 14th

#### Saturday Activities: Leave to Bahía Salinas - 4 Days

- 7:00 Breakfast
- 10:00 Arrive at El Jobo, Sol y Mar / Blue Dream (más lejos)
- 10:30 Presentation on the area: Pellas Development
- 13:00 Lunch at El Jobo
- 14:00 El Jobo Beach, Classes: BIG-SCALE TOURISM, RAYS, BIODIVERSITY IN NON-PROTECTED AREAS
- 18:00 Dinner

### Day 8 - Jan 15th

#### Sunday Activities

- 6:00 Breakfast
- 7:30 Isla Bolaños, Classes: MARINE BIRDS. BASE OF THE FOOD CHAIN, BAHÍA SALINAS INTERTIDAL ZONES, MAN-GROVES
- 12:00 Lunch in the field
- 14:00 Women projects at Puerto Soley, Sustainable tourism.
- 19:00 Dinner

### Day 9 - Jan 16th

#### Monday Activities

- 6:00 Sea turtle monitoring in feeding grounds; Bahía Matapalito.  
Breakfast & Lunch on the boat
- 15:00 - 17:00 Snapper farm
- 18:30 Dinner
- 20:00 Turtle beach monitoring (black turtles, Somos El Jobo/Equipo Tora Carey talks)

### Day 10 - Jan 17th

#### Tuesday Activities

- 7:00 Fisheries landing
- 8:00 Breakfast
- 9:00 Turtle Nest exhumation, subtidal beach clean-up
- 12:00 Lunch
- 13:00 Afternoon on the beach  
Dinner

### Day 11 - Jan 18th

#### Wednesday Activities: Sol y Luna

- 7:00 Leave to Quepos: Crocodiles
- 12:00 Lunch
- 13:30 SINAC talk on marine policy  
Stay in Quepos, free afternoon  
Dinner



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## Short Term Field Program 2017

### Day 12- Jan 19th

#### Thursday Activities

- 7:00 Leave to Golfito
- 8:00 Breakfast
- 9:00 Golfo Dulce, reef and seagrass pastures, whale sharks & dolphins
- 18:30 Dinner

### Day 13 - Jan 20th

#### Friday Activities: Leave to Ojochal

- 7:00 Industrial fisheries landing
- 10:00 Breakfast
- 12:00 Talk Incopesca
- 13:00 Free Afternoon
- Dinner

### Day 14 - Jan 21st

#### Saturday Activities

- 7:00 Breakfast
- 8:30 Arrival Ojochal Reserve Playa Tortugas
- 12:00 Lunch
  - Intro to research project and Playa Reserva Tortuga / Fisheries Landing; Sharks, taking samples for genetic analysis
- 14:00 Night census Crocodiles
- Dinner

### Day 15 - Jan 22nd

#### Sunday Activities

- 6:00 Breakfast
- 8:30 Snorkeling Bahía Ballenas
- 12:00 Lunch
- 13:00 Return to San José

### Day 16 - Jan 23rd

#### Monday Activities

- 7:00 Breakfast with Host Families
- 8:00 Laboratory Practices: Conservation Genetics of Marine Animals
- 12:00 Lunch card at Universidad Veritas

### Day 17 - Jan 24th

#### Tuesday Activities: Presentation of Final Projects

- 7:00 Breakfast with Host Families
- 12:00 Lunch card at Universidad Veritas
- 15:00 Course debriefing
- 16:00 Final Chilean style BBQ