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# CONSERVATION AND SUSTAINABILITY COURSE INFORMATION

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 **DANTA**  
ASSOCIATION FOR THE CONSERVATION OF THE TROPICS  
**WWW.DANTA.INFO**

# SYLLABUS

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Natural resource management by indigenous communities and smallholders has gained momentum as a viable strategy for conserving ecosystems while supporting local livelihoods and cultural values. This course examines how local people conserve their natural resources and their challenges in pursuing sustainability (i.e. maintaining ecological and environmental health, creating economic welfare, and seeking social justice). The course is designed to provide students with practical experience in a range of surveying techniques including terrestrial methods to measure bio-indicator species such as key predators, as well as social surveying methods and participatory management approaches to encourage community member participation and stakeholder involvement. Students will also gain a better understanding of the principles of ethnobotany, sustainable development, fair commerce, defaunation, and community-based management. The course includes four learning experience categories: field exercises, seminars, lectures, and applied conservation.

The field exercises and seminars offer instruction and experience on different methods of data collection, management, and analysis; for example, social and participatory approaches such as questionnaires, interviews, resource or social maps, timelines, and diagrams, as well as terrestrial surveying techniques including mammal tracking and camera trapping or GPS navigation. Lectures cover indigenous people's culture, natural resource management, and socio-economic development, mainly focused on the Borucas Tribe, as well as ecology and socio-economic and anthropogenic impacts related to selected bio-indicator groups in this region of Costa Rica. Selected lecture topics include ecology, taxonomy, and conservation of medium-large vertebrates, as well as effects of anthropogenic impacts on population dynamics or defaunation. Topics on community-based management, participatory methods, and socioeconomic impact on both conservation and the development of sustainable livelihoods for local and indigenous communities are also included. Students also gain experience in community engagement, outreach, and education through activities at the Boruca Village such as the traditional mask painting workshop, the medicinal plant talk and walk, or folklore exhibition, as well as visiting Piro Ranch owned by Don Miguel Sanchez, one of the remaining few ranchers in the Osa Peninsula.

## Course Objectives

- To understand and apply some of the methodological techniques used to measure biodiversity in the tropics and participatory approaches to develop or strengthen community and stakeholder engagement
- To gain knowledge on the relevance and complexity of the socio-economic context of natural resource conservation, sustainability, and community-based management
- To understand and synthesize concepts for sound management of community resources
- To review, discuss, and reflect on biodiversity conservation, poverty, development, and cultural change
- To develop and apply critical scientific thinking and students' interests with course learning

## Course Requirements and Materials

**1. Field Exercises:** Students work in groups to learn the basics of biodiversity and social data collection. All methods will be first introduced and discussed, and then students will practice them in the field. The methods covered include (1) GIS and remote sensing uses and applications, (2) sign tracking and camera trapping for large-medium terrestrial vertebrates, (3) participatory methods for community-based management (4) Boruca Culture immersion, (5) socio-economic events and local factors influencing conservation. *Materials: a printed copy of all field exercises and a spare notebook or paper to write field data, notes, and exercise calculations. Pen, paper, ruler, or anything you think you will need.*

**2. Scientific Article Lead Discussion:** To promote an active discussion for the issues presented in this course, each of you will be assigned a recent or relevant scientific research article in which you are the discussion leader. The scientific research articles must be printed or downloaded to read on-site, although reading papers in advance is also recommended. Students **MUST** read all papers, but they will be assigned a paper in Costa Rica (after discussion to facilitate a diversity of presentations) from the given pool. During the discussion, the lead student must provide a brief introduction on the paper's topic providing an insightful critique of the methods, results, and conclusions. Some questions relating to the article are also required to promote discussion among your peers. This discussion must be led and maintained for at least 5 min by the student(s) under evaluation. *Materials: a copy (eg., printed, downloaded to student's phone, etc.) of the scientific articles selected for reading in the field.*

**3. Natural History Journal:** Daily journal entries are required. This must include notes on the methodologies and information provided, field and cultural experiences, detailed species and activity descriptions, and/or your observations, perceptions, feelings, issues, and solutions regarding the fieldwork, biodiversity, and Costa Rican people's customs and culture. You can include drawings; however, this is **NOT** a personal journal or diary. The purpose of this exercise is to record your responses, reflections, and adaptability to a different culture and the natural world around you. The primary purpose is to help you develop scientific observation skills. *Materials: a journal type of notebook or similar for the Natural History diary. In addition to anything else you plan to use on it, for example, colored pencils, pens, etc.*

**4. Class Participation:** Based on participation in lectures, seminars, field exercises, and conservation initiatives. During the field trip students are required to participate in all assigned activities.

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The grade is based on		Grading Scale in Percentages	
Field Exercises	50 (10% each)	100-90%	A
Paper Presentation	20%	80-89%	B
Journal	15%	70-79%	C
Class participation	15%	60-69%	D
		59 and below%	F

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# TRAVEL ITINERARY EXAMPLE

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## Day 1

Arrive in San Jose, Costa Rica (airport code SJO). Stay in Alajuela

## Day 3

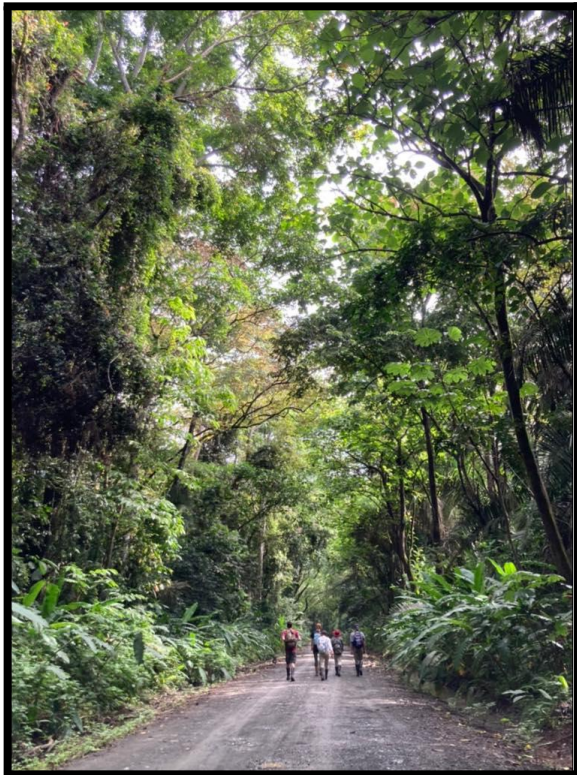
Travel to Rancho Piro in the Osa Peninsula stopping en route at Carara National Park and in Dominical for lunch. Rancho Piro stay

## Day 2

Day trip to Zoo Ave Conservation Park, overnight in Alajuela

## Day 4 - 8

Lectures, exercises, and activities, such as horse riding and forest and beach trails, at Rancho Piro



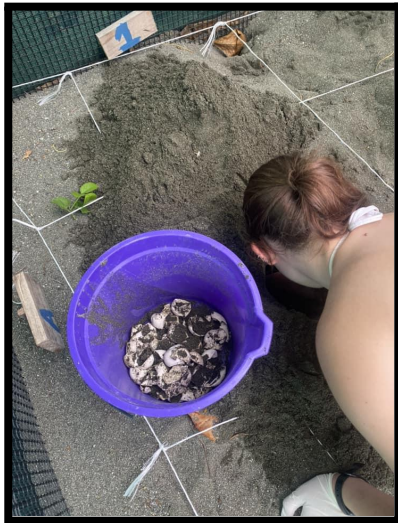


**Day 9**

Morning Finca Kobo Chocolate Tour and Tortugas Preciosas Afternoon. Overnight at Corcovado Beach Lodge

**Day 10**

Depart from Corcovado Beach Lodge to the Boruca's stay



**Day 11 -13**

Lectures, exercises, and activities, such as the traditional mask painting workshop and the medicinal, plant talk at the Borucas

**Day 14**

Depart the Borucas, travel to Alajuela, and overnight in Alajuela



**Day 15**  
Return Home



# HOMESTAYS

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## Rancho Piro

Rancho Piro is situated in the Osa Peninsula (Costa Rica), one of the most biologically diverse places on Earth, harboring 2.5% of the world's biodiversity. The Rancho is located close to Corcovado National Park with the nearest town, Puerto Jiménez, about 45 minutes by car. Rancho Piro is currently owned and managed by Miguel Sanchez. The property is a legacy that has been passed down through Sanchez's family generations, going back to the first inhabitants of the Peninsula arriving from Panama. Historically, the Sanchez family owned great extensions of the land extending Corcovado National Park to Puerto Jimenez; currently, Miguel's is one of the two properties still owned by the family. In an area where research, strict conservation, ecotourism, foreign investment, and ownership are the norm and the motor of the economy; Miguel is one of the few locals owning, working, and managing his property in a traditional way.



Despite his traditional methods, Miguel has become a reference of sustainability and conservation for the area, adapting his livelihood and behavior to the times. Currently, his main livelihood comes from horses and renting rustic rooms and cabins to visitors such as DANTA students. Accommodation is rustic and basic with shared bedrooms and two bathrooms. There are a few common areas, chairs and hammocks, and a clothesline for hanging clothes out to dry. The property is powered by a small solar system. This means that we are mindful of reducing consumption, as sometimes power is intermittently available. There is no WIFI connection and meals are prepared in a traditional wood-fired kitchen, in addition to a gas stove as a backup.

Miguel represents a perfect example of “modern-traditional” living, sustainably using all available resources. From feeding the chickens or fertilizing the crops to bringing himself or his horses to health, Miguel uses the forest to his advantage; and he also knows and understands the importance of using resources sustainably and conserving them for future generations.





## Boruca Village

The Boruca Village is located on an indigenous reserve in South-Pacific Costa Rica, among the Talamanca Mountains. The Boruca tribe is estimated to have around 2,000 members, collectively using and managing their communal land, seeking to support the long-term sustainability of natural resources. Daily life reflects a self-sustaining agricultural village, supplemented by craft-making and ethnotourism. The Boruca people are very proud to have survived the struggles between the native tribes and Spanish conquistadors in the 1500s with their village and sense of identity intact.



While many indigenous tribes consider themselves to have been defeated by the Spanish, the Boruca believe, the opposite, the tribe cannot be defeated if its culture is still alive today.

The Boruca Village has some houses with thatched roofs and dirt floors but most are modern with metal roofs and tiled floors. The village has many amenities from schools or shops to a museum. There is electricity throughout, although power cuts could happen. Accommodation is basic with shared bedrooms including their bathrooms and a fan. There are two common areas with a TV, sofa, chairs, hammocks, and a clothesline for hanging clothes out to dry. Internet is available at the lodge but with limited connection. Meals are prepared in a traditional Borucan restaurant a few roads away from the accommodation.





# CODE OF CONDUCT

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DANTA very much operates on a RESPECT model. Respect for each other, faculty, local staff, the host country in which we are working (Costa Rica), the physical environment, and wildlife. This manifesto was recently published by Thomas Benton regarding student and faculty relations. It has been modified to include DANTA's values and expectations. Below is what we expect from you and you in turn should expect from us. This also includes a section for our visit to the Boruca Reserve.

What we (DANTA staff) expect from you:

1. You will treat everyone in the class, including the professor, with the respect due to all human beings.
2. You will attend every class, give your full attention to the material, and appropriately conduct yourself.
3. You will agree to do the work outlined in the syllabus on time.
4. You will acknowledge that previous academic preparation (e.g., writing skills) will affect your performance in this course.
5. You will acknowledge that your perception of effort, by itself, is not enough to justify a distinguished grade.
6. You will not plagiarize or otherwise steal the work of others.
7. You will not make excuses for your failure to do what you ought.
8. You will accept the consequences -- good and bad -- of your actions



What you can expect from us:

1. We will treat you with respect.
2. We will know your name and treat you as an individual.
3. We will not discriminate against you based on your identity or your well-informed viewpoints.
4. We will professionally manage the class. That may include educating you on inappropriate behavior.
5. We will prepare carefully for every class.
6. We will return your assignments as quickly as possible with detailed feedback.
7. We will pursue the maximum punishment for plagiarism, cheating, and other violations of academic integrity.
8. We will keep careful records of your attendance, performance, and progress.
9. We will make ourselves available to you for advising.
10. We will maintain confidentiality concerning your performance.
11. We will provide you with professional support and write recommendations for you if appropriate.
12. We will be honest with you.
13. Your grade will reflect the quality of your work and nothing else.
14. We will teach in our area of expertise. If we do not know something, we will say we don't know and jointly, as a group, we will seek the answer.
15. We are always interested in your feedback about the class.



While staying at the Boruca Reserve you **MUST BE** respectful at all times, this includes:

1. Being quiet, maintaining order and compliance during talks and activities
2. Dressing accordingly and as covered as possible (no bikini walking allowed)
3. No Drugs or Drinking Alcohol Allowed
4. No dating policy or romantic relationships (No with Borucas or among students)

# WHAT TO BRING ON THE TRIP

## Essentials

### Documents

- A copy of your passport
- Your travel insurance policy
- A record and a copy of vaccinations, e.g., COVID-19 vaccination card

### Finances

- Bring cash and a credit/debit card
- US Dollars are accepted almost anywhere
- You can take local colones out of ATMs in Alajuela and Puerto Jimenez, but NOT at the Homestays
- Debit/Credit Cards are widely accepted

## Clothing and Footwear

- Pack for hot weather, rain, and dirt, including some warmer items it can be cool at night or on bus rides. Lightweight and fast-drying articles are best. Don't bring denim; it NEVER dries in tropical humidity

- Bring field, camp, and comfy clothes mainly:

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|---|--|
| ★ 5-7 light-weight T-shirts and tank tops | ★ Rain jacket, poncho, and/or umbrella                                     |
| ★ 5 pairs of shorts including field pants | ★ 10 pairs of socks include at least 4 knee highs for wearing rubber boots |
| ★ 1-2 long-sleeved shirts and long pants  | ★ 10 pairs of underwear and pajamas  |
| ★ A hoody or a jumper                     | ★ Swimsuit, sunglasses, and a hat  |

- Pack a couple of city summer outfits (skirts, shirts, dresses for wearing into town or a night out)
- Rubber boots (required for trails). These can be purchased at Walmart or any other discount store. Please avoid the colorful, fashionable ones as these are often cheaply made and tear easily. You can also purchase them in Costa Rica if you have an average shoe size (i.e. no larger than US size 10)
- Sandals or flip flops AND sneakers for other walks

## Personal

- Toiletries (BIODEGRADABLE) and two lightweight towels
- Small personal first aid kit (Band-aids, anti-itch cream, Tylenol, Cortisone, any necessary or prescription medications). You can buy any medication at the pharmacy both in Alajuela and Puerto Jimenez
- Ziplock bags for the camera, phone, and equipment, and large plastic trash bags for laundry

## Gear

- A squared mosquito net (best double size), easily purchased on Amazon.com
- Wristwatch or phone with alarm and stopwatch functions
- Headlamp or hand torch light
- Sunblock and insect repellent (preferably natural, no more than 20% DEET)
- Water bottle and a day pack for hiking and days out, waterproof is best

## Optional

- Binoculars, Whistle, and Compass
- Leatherman/Swiss Army Knife
- A small sewing kit with thread, needles, and a pair of scissors

- Antibiotics or any other medication, if you are prone to tonsillitis, yeast infection, diarrhea, etc
- A sting kit or anaphylactic shock kit, if you are allergic to bee sting

## Please Do Not Bring

- Personal items that require AC power supplies (hairdryers, straighteners, electric razors, toothbrushes) draw too much on renewable energy systems
- Expensive items like jewelry, laptops, or anything super valuable that could be lost or damaged. You can bring a small tablet or a book for entertainment.

PLEASE pack as efficiently and sparingly as possible. There is limited space in the minibusses used to travel across Costa Rica. A manageable backpack and small carry-on that can be used as a day pack are ideal



# FREQUENTLY ASKED QUESTIONS

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## Climate

- Average Temperature: 26°C/79°F Annual
  - Precipitation: 5000-6000mm /197-236 inches
  - Humidity: 80-90%
  - Wet Season: June-Nov (rains most days, generally in the late afternoon and evening)
  - Dry Season: Dec-May (it still rains but much less)
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## Food

- All meal expenses are covered during the course, but NOT on the day, students fly to Costa Rica (arrival day). Depending on their flight arrival time, students must cover lunch and/or dinner (\$15 - \$30)
  - Students enjoy mainly a diet of traditional, local Costa Rican cuisine (e.g., casados made of rice, beans, and salad with some meat or vegetarian options). There are also opportunities to eat international dishes when visiting Alajuela and Puerto Jimenez.
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## Accommodation

- Students do NOT have to make any accommodation reservations during the course; the first and last hotel nights in Alajuela are also included.
  - Sleeping arrangements are mainly rural and basic shared rooms and cabins that can house from 2 - 8 people each with shared toilets and showers. Depending on availability, you may be sharing beds with other students. The rooms do not have a mosquito net, please bring one.
  - Students do NOT need to bring bedding (sheets and pillows), but a very lightweight blanket is a good idea. Bring two light towels.
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## Transportation

- Students are responsible for the transportation costs for US domestic and flights, until arrival at SJO airport in Costa Rica. After arrival, they will be met at the airport by a shuttle organized by our hotel in Alajuela. Some Alajuela hotels encourage visitors to take an Orange (official) Taxi before exiting the SJO arrivals terminal. The airport is very small with a single terminal for arrivals and departures. Then, the receptionist will pay the taxi fare once at the hotel. The taxi fare is \$5 - \$10 from SJO airport to Alajuela city center where we usually stay on the first and last day of the course. The course instructor will provide

more information about the hotel and arrival procedures in advance and will be waiting for you at the designated hotel reception on arrival.

- To travel across Costa Rica and from/to the homestays we use comfortable minibusses with aircon. The trip from Alajuela to the Osa Peninsula is approximately 6 - 8 hours, stopping en route a few times including lunch. Homestay transportation might include pick-up trucks for short trips around the area.

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## **Internet & Electronics**

- During your stay, you will have limited access to the Internet. There is internet at the Boruca homestay but it is unreliable. There is a reliable internet connection at the hotel in Alajuela before departing for the homestay and at the hotel in Puerto Jimenez.

- Phones and other electronics can be used and charged at most places, but NOT at Rancho Piro homestay. Students can bring an external battery charger to use while staying in Piro.

- Do not bring many electronic devices (laptops), they are susceptible to damage caused by high humidity and curious insects.

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## **Health & Safety**

- In general, Costa Rica is an extremely safe country for visitors. That said, we strongly encourage students to be vigilant and aware of the potential hazards associated with traveling and living outside of their resident country. In addition, there are certain hazards associated with life in remote locations. The majority of these pertain to the natural environment. The most common discomforts are:

★ Mosquitoes, sand flies, and other biting insects. The presence of mosquitos in Costa Rica is not excessive. There are usually fewer than you would find in many areas of Europe and North America. A good insect repellent will protect you

well, you can also wear long sleeves at dusk and dawn to avoid bites.

★ Sunburn; and dehydration. Sunblock, a hat, and consumption of an adequate amount of WATER are absolutely essential

- Costa Rica, like other tropical regions, has its fair share of snakes, some of which are poisonous. We require the use of rubber boots on forest trails and it is absolutely necessary to use a head-lamp or flashlight at night and to always pay attention to your surroundings.

- Throughout Costa Rica, drinking water is generally well-regulated and the tap water is safe to drink.

- There have been no reported Malaria cases in Costa Rica for several years.

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### WILL I HAVE FREE TIME?

Although the course is full of learning activities, students have a few hours each day to write up the course exercises, relax, read, sit, and enjoy the surrounding natural beauty.

### DO I NEED TO BUY EVERYTHING NEW FOR THE COURSE?

-We encourage you to bring all essential items included in the “What to bring to the trip” Section. Also, consider the optional list and what not to bring; however, it is best not to buy new items. Instead pack what you already have at home such as street clothes, hats, everyday backpacks, water bottles, pens, notebooks, etc. If you have to buy field clothes, these can best be purchased at Goodwill or similar places where they are less expensive.

- Rubber boots (up to US size 10) and biodegradable personal care products and laundry soap can be purchased at any supermarket in Costa Rica. It is much less expensive there, you can share products and expenses, don't have to travel with them and possibly incur extra weight expenses.

### ARE HIKING BOOTS REQUIRED?

- Rubber boots, sneakers/tennis shoes, and sandals are required. Hiking boots are NOT necessary unless you have weak ankles and prefer to walk in those instead of sneakers.

### HOW DO WE WASH OUR CLOTHES?

- We wash our clothes by hand. There could be some opportunities to use a washing machine at the Borucas or the laundry service at the hotel in Puerto Jimenez, but these are not guaranteed.

### HOW MUCH MONEY DO I NEED TO BRING TO THE TRIP?

- All the expenses are covered during the course, but your lunch and/or dinner on arrival day. Your expenses will depend on how many drinks, snacks, souvenirs, and other items you buy throughout the experience. We recommend to have some money in cash (e.g., \$100 to \$150), then use the ATMs available to get US dollars or Colones if required.

### CAN I WALK THE FOREST TRAILS ALONE?

- Students MUST never walk alone on the forest trails. After the orientation walks students can go to determined places (i.e., river swim spot, camera trap point, the beach, etc.) in groups including at least 3 people. The group must take a GPS, wear rubber boots, stay on marked trails, and inform the instructor what trails they will be on and when to expect back.

### CAN I SWIM IN THE SEA?

The Pacific Ocean at Ranch Piro Beach has strong currents and rip tides, powerful waves, and the occasional shark. We consider it too dangerous to swim and do NOT allow students to do so. There are safe swimming areas and beaches nearby; please talk to our staff before going swimming.



**HOPE TO SEE YOU SOON!!**

