



# Bio 389

## Field Course in Conservation

### Biology – Costa Rica

Semester: Spring, 2015  
 Days: April 27 – May 5, 2015  
 Room: A2151 (pre-trip)  
 Pre-trip  
 Classes: Tuesdays 12:00 -1:00  
 Dates: Feb. 3-March 31

Number of credits: 3

Prerequisite:  
 Biology 30

Instructor: Dr. Carol Gibbons Kroeker  
 Email: ckroeker@ambrose.edu  
 Phone: 403-410-2000, ext 5910  
 Office: A 2156  
 Office hours: Tues. / Thurs. 11:00 – 1:00  
 or by appointment

#### Course Description:

This 9-day course will introduce the students to several ecosystems within Costa Rica, including tropical rainforest, cloud forest, marine, and the transition zone in an active volcano zone. Students will work with researchers at Selve Verde Rain Forest Research Station, and with Park Rangers on service projects at Manuel Antonio National Park.

#### Further Course Information:

This course consists of 15+ hours of pre-trip lectures, plus 45+ hours of on-site field work.  
 Note : With limited space on the trip, preference will be given to Biology majors.

#### Expected Learning Outcomes:

1. Students will study the rainforest, estuary, cloud forest and marine ecosystems in Costa Rica
2. Students will work on a collaborative research project and present it to the group.
3. Students examine volcano transition zones and see the impact of plantations on the ecosystems
4. Cultural exchange with University students in Costa Rica, with research presentations made

#### Important Dates:

First Deposit Due: November 15, 2014  
 Second Deposit: December 15, 2014  
 Final Payment Due: January 31, 2015  
 Departure Date: April 27, 2015  
 Final Papers Due: June 22, 2015  
 Attendance at pre-trip classes is required Tuesdays 12:00 Feb. 3-March 31

**No Final exam in the course**

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This course will be a travel trip to Costa Rica to engage in hands-on conservation ecology. On-site, students will work on preservation projects at Selva Verde Nature Preserve. They will continue to Arenal Volcano to discover geological history, then will study the unique biodiversity inhabiting Manuel Antonio National Park. There will be opportunities for cultural exchange with the local community while working on service projects, as well as a behind-the-scenes look at the pineapple industry and an estuary study.

## **TRIP ITINERARY:**

### **Monday, April 27**

- Arrive in San Jose.
- Orientation session to learn more about the ecosystems of Costa Rica to be visited in the next week.

### **Tuesday April 28**

- Leave San Jose for Selva Verde Research Station and Rainforest Reserve in the lowlands of north central Costa Rica – on a large tract of primary and secondary tropical rainforest
- Visit the Instituto Nacional de Biodiversidad (INBio Parque). This biological station serves as a scientific institution with a social orientation, and visitors have the opportunity to learn about Costa Rica's biodiversity. Cultural exchange with local students and researchers.
- Guided hike in the rainforest and discuss forest structure, flora, fauna, and the principles for protecting the intricate balance of nature in the world's rapidly diminishing rainforests.
- Night hike to explore the nocturnal world of the rainforest searching for mammals, owls, and insects

### **Wednesday April 29**

- Introduction to the amazing tropical birds of Selva Verde during a hike with your guide around the grounds of the research station.
- Research work on various ecological projects at the Research Station
- Visit a local pineapple plantation to learn about farming and harvesting techniques. Discussion topics include the controversy regarding the effects of the agriculture industry on the environment and how recent concern has resulted in reforms and constructive compromise.
- Boat ride down the Río Sarapiquí, with opportunities to view aquatic animals, birds, and reptiles in their natural habitats in the forest and cultivated fields bordering the river.
- Study the effects of the banana industry evident along the watershed.
- Visit the Sarapiquí Conservation Learning Center (SCLC) for an afternoon community activity. The SCLC provides an ideal hands-on environment for activities that support community self-development. Cultural exchange with local students and researchers

### **Thursday April 30**

- Hike the rainforest and discover the unique ecosystem of the rainforest and its flora and fauna. Along
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the reserve's forest trails you may see a superb variety of wildlife including parrots, jacamars, hummingbirds, motmots, and other exotic lowland tropical birds.

- Continue research projects at the centre, including a poison dart frog project.
- Visit Selva Verde's unique botanical garden and learn about the beautiful tropical flowers and plants.
- Whitewater rafting adventure with class I, II, and III rapids. A professional river guide escorts all rafting trips and all of the necessary safety equipment (helmet, life jackets, etc.) is provided along with a lesson on rafting and safety instructions and procedures.

### **Friday, May 1**

- Depart Selva Verde and transfer to Arenal Volcano
- Take a hike (approximately three hours) along the base of Arenal Volcano, through the forest over lava flows and to the destroyed area now in the process of regeneration.

### **Saturday May 2**

- Transfer from Arenal to Costa Rica's Pacific Coast
- Visit an alligator colony en route.

### **Sunday May 3**

- Explore Manuel Antonio National Park, with hosts a total of 109 species of mammals and 184 species of birds as well as countless marine species. It may be possible to spot one of the three monkey species present: white-faced capuchin, howler, and squirrel monkeys.
- Spend the day studying the habitats which include mangrove swamp, lagoons, littoral woodlands, and island vegetation. Explore the trail system, beaches, and coves with park rangers.
- Service projects to be completed with park rangers

### **Monday May 4**

- Take a morning excursion to the Damas Estuary for a chance to examine its fragile ecosystem and learn about its flora and fauna while searching for monkeys, snakes, crocodiles, and various bird species.
- Cultural exchange with University students in Costa Rica – presentation of research projects
- Last night in Costa Rica. Gather together one last time to celebrate new friendships and the completion of your program during a farewell dinner at your hotel.

### **Tuesday May 5**

- Head to the Juan Santamaría International Airport for your flight home.

### **Requirements:**

Students will have some pre-trip assignments, as well as a research project and presentation to be completed on-site. There will be two post-trip term papers to follow.

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## Submission of Assignments:

There will be a 10% deduction in grade per day that an assignment or lab report is handed in late. No assignments will be accepted past one week late. If there are extenuating circumstances resulting in the lateness, please contact the instructor.

## Attendance:

Attendance at pre-trip lectures is mandatory. All activities on the trip must be attended.

## Evaluation:

Mark Distribution:	Pre-trip work	20%
	Field Work	30%
	Research Project and presentation	10%
	Research and term papers	40%

After completing their field work, students meet their Costa Rican peers when they visit a University attended by local program participants. Students spend time together giving joint presentations, sharing research data, engaging in the powerful exchange of ideas, and realizing their collaborative strength.

## Grade Summary:

The available letters for course grades are as follows:

Grade	Percent	Grade Point Value	Description
A+	96-100	4.00	Outstanding
A	92-95	4.00	Excellent - superior performance, showing comprehensive understanding of subject matter.
A-	88-91	3.70	
B+	83-87	3.30	
B	78-82	3.00	Good-clearly above average performance with knowledge of subject matter generally complete.
B-	73-77	2.70	
C+	68-72	2.30	
C	64-67	2.00	Satisfactory – basic understanding of the subject matter. Grade point average below 2.00 is not sufficient for promotion.
C-	60-63	1.70	Minimum grade required if needed as a prerequisite course
D+	55-59	1.30	
D	51-54	1.00	Minimal pass – marginal performance; generally insufficient preparation for subsequent courses in the same subject.
F	<50	0	Fail – unsatisfactory performance or failure to meet course requirements.

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**Textbook:**

- Wild Costa Rica - The Wildlife and Landscapes of Costa Rica, 2008. Adrian Hepworth. Summerfield Books.
- Field and Laboratory Methods for General Ecology, by James Brower, Jerrold Zar, Carl N. von Ende, McGraw-Hill, 2008.

**Research Partners:****Selva Verde Lodge and Rainforest Reserve**

Selva Verde was founded in 1983 by the Holbrook family to protect the rainforest and wildlife of the Sarapiquí region. Selva Verde's abundant biodiversity, comfortable rainforest lodge, and exciting activities have attracted adventure seekers, bird and wildlife watchers, students, and families. The 500-acre reserve is located in Chilamate, a key location along the Costa Rican bird route, and its towering Almendro trees are some of the few remaining habitats of the endangered Great Green Macaw. As one of Costa Rica's pioneering eco-lodges, Selva Verde is committed to a sustainable future for Sarapiquí and proudly carries and supports Costa Rica's Certification for Sustainable Tourism. Selva Verde now plays an important role in the San Juan-La Selva Biological Corridor and the greater Mesoamerican Biological Corridor initiative, a proposal to create a corridor of protected habitats extending from Mexico and Belize all the way to Panama.

**Sarapiquí Conservation Learning Center (SCLC)**

The Sarapiquí Conservation Learning Center (SCLC), located in Costa Rica, focuses its efforts in four areas — environmental education, community development, conservation, and tourism — in order to help form future environmental leaders, raise the organizational capacity of local communities, promote sustainable land use, and connect tourists to the local community. The SCLC was founded by the Holbrook family and Selva Verde Lodge to support the local community and bring unique environmental and cultural education opportunities to our travelers.

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## INBio

The National Biodiversity Institute (INBio) of Costa Rica is a private research and biodiversity management center, established in 1989 to support all efforts made to gather knowledge on the country's biological diversity and promote its sustainable use. The institute works under the premise that the best way to conserve biodiversity is to study it, value it, and utilize the opportunities it offers to improve the quality of life of human beings.

INBio is a non-governmental, non-profit, public interest organization of civil society that works in close collaboration with different government institutions, universities, the private sector and other public and private organizations, both within and outside Costa Rica. INBio's work focuses on the following areas of action: Inventory and Monitoring, Conservation, Communications and Education, and Bio-diversity Informatics.

## Holbrook Travel

We will be traveling with **Holbrook Travel** – a company that specializes in Education travel and Eco-tourism. Holbrook leads the way in fostering best practices of ethical and ecological travel. Holbrook understands that to visit a place involves interaction with the host country, its people and its environment. Holbrook believes in offering travel programs that help to conserve the environment and improve the well being of local people. Tours are underpinned with the principles of respect and sustainability to help protect natural resources and benefit local culture.

Holbrook identifies in-country partners that adhere to the best practices in sustainable travel. Holbrook also partners with Rainforest Alliance, which has established a certification system to encourage and influence consumers to purchase certified travel products. Rainforest Alliance verifies the certifications of end providers and in-country tour operators in eight countries. It also provides training in energy saving and workshops and information on best practices in sustainable tourism.

## MANUEL ANTONIO PARK

Established in 1972, this park is just south of Quepos on the Pacific Coast. The Principal habitants are primary forest, secondary forest, mangrove swamps, lagoons and beach vegetation. There is quite a varied fauna with 109 species of mammals and 184 of birds. The park includes 12 little isles just off the coast; these often visited by a number of dolphins and, at times, migrating whales can be observed. The forest is home for sloths, iguanas, the rare and adorable squirrel monkeys and millions of colorful little crabs.

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## Policies:

All students have received an Ambrose e-mail account upon registration. It is the student's responsibility to check this account regularly as the Ambrose email system will be the professor's instrument for notifying students of important matters (Cancelled class sessions, extensions, requested appointments, etc.) between class sessions. If students do not wish to use their Ambrose accounts, it is highly recommended that they forward all messages from the Ambrose account to the other account.

During the **Registration Revision Period** students may to enter a course without permission, change the designation of any class from credit to audit and /or voluntary withdraw from a course without financial or academic penalty. These courses will not appear on the student's transcript. Courses should be added or dropped on the student portal by the deadline date, please consult the List of Important Dates. After that date, the original status remains and the student is responsible for related fees.

Students intending to withdraw from a course after the Registration Revision Period must apply to the Office of the Registrar by submitting a Request to Withdraw from a Course by the **Withdrawal Deadline**, please consult the List of Important Dates. Withdrawal from courses after the Registration Revision period will not be eligible for tuition refund. A grade of "W" will appear on the student's transcript.

Students wishing to withdraw from a course, but who fail to do so by the applicable date, will receive the grade earned in accordance with the course syllabus. A student obliged to withdraw from a course after the Withdrawal Deadline because of health or other reasons may apply to the Registrar for special consideration.

Students, who find a conflict in their exam schedule must submit a **Revised Examination** Request form to the Registrar's Office by the deadline date, please consult the List of Important Dates. Requests will be considered for the following reasons only: 1) the scheduled final examination slot conflicts with another exam; 2) three final exams within three consecutive exam time blocks; 3) the scheduled final exam slot conflicts with an exam at another institution; 4) extenuating circumstances. Travel is not considered a valid excuse for re-scheduling or missing a final exam.

### Electronic Etiquette

Students are expected to treat their instructor, guest speakers, and fellow students with respect. It is disruptive to the learning goals of a course or seminar and disrespectful to fellow students and the instructor to engage in electronically-enabled activities unrelated to the class during a class session. Please turn off all cell phones and other electronic devices during class. Laptops should be used for class-related purposes only. Please do not use iPods, MP3 players, or headphones. Do not text, read, or send personal emails, go on Facebook or other social networks, search the internet, or play computer games during class. The professor has the right to disallow the student to use a laptop in future lectures and/or to ask a student to withdraw from the session if s/he does not comply with this policy. Repeat offenders will be directed to the Dean. If you are expecting communication due to an emergency, please speak with the professor before the class begins.

### Academic Policies

It is the responsibility of all students to become familiar with and adhere to academic policies as stated in the Academic Calendar. Personal information, that is information about an individual that may be used to identify that individual, may be collected as a requirement as part of taking this class. Any information collected will only be used and disclosed for the purpose for which the collection was intended. For further information contact the Privacy Compliance Officer at [privacy@ambrose.edu](mailto:privacy@ambrose.edu).

### Extensions

Although extensions to coursework in the semester are at the discretion of the instructor, students may not turn in coursework for evaluation after the last day of the scheduled final examination period unless they have received permission for a "**Course Extension**" from the Registrar's Office. Requests for course extensions or alternative examination time must be submitted to the Registrar's Office by the deadline date, please consult the List of Important Dates. Course extensions are only granted for serious issues that arise "due to circumstances beyond the student's control".

### Appeal of Grade

An appeal for change of grade on any course work must be made to the course instructor within one week of receiving notification of the grade. An appeal for change of final grade must be submitted to the Office of the Registrar in writing within 30 days of receiving notification of the final grade, providing the basis for appeal. A review fee of \$50.00 must accompany the appeal to review final grades. If the appeal is sustained, the fee will be refunded.

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**Academic Integrity**

We are committed to fostering personal integrity and will not overlook breaches of integrity such as plagiarism and cheating. Academic dishonesty is taken seriously at Ambrose University College as it undermines our academic standards and affects the integrity of each member of our learning community. Any attempt to obtain credit for academic work through fraudulent, deceptive, or dishonest means is academic dishonesty. Plagiarism involves presenting someone else's ideas, words, or work as one's own. Plagiarism is fraud and theft, but plagiarism can also occur by accident when a student fails or forgets to give credit to another person's ideas or words. Plagiarism and cheating can result in a failing grade for an assignment, for the course, or immediate dismissal from the university college. Students are expected to be familiar with the policies in the current Academic Calendar that deal with plagiarism, cheating, and the penalties and procedures for dealing with these matters. All cases of academic dishonesty are reported to the Academic Dean and become part of the student's permanent record.

Students are strongly advised to retain this syllabus for their records.

**Other****Classroom Etiquette:**

It is expected that students will take an active role in the learning process. This includes: (a) regular class attendance, (b) reading course material in advance of class, and (c) engaging in discussions during class.

In respect to the professor and to your fellow students, we ask that you:

- a) Turn your phone off during class and that you don't use it for texting during lecture or lab
- b) Not have conversations with the people beside your during lecture – it is very distracting to the people around you
- c) Use your laptops for lecture material and assignments only – that you are not using the internet or facebook during class time.
- d) Arrive to lecture and lab on time
- e) Don't come to class or lab with your ipod or equivalent.

These will help to maximize the learning experience for you and your fellow students (and will keep your professor in a good mood).