

Instructionally Related Activities Report Form

SPONSOR: Don Rodriguez and Allison Alvarado

PROGRAM/DEPARTMENT: ESRM and Biology

ACTIVITY TITLE: Natural and Cultural History of Costa Rica

DATE (S) OF ACTIVITY: 3/14/19-3/24/19

Please submit via email to the IRA Coordinator along with any supporting documentation at david.daniels@csuci.edu within 30 days after the activity. Thank you for your commitment to engaging our students!

A. ADDRESS THE FOLLOWING QUESTIONS:

- (1) PROVIDE A DESCRIPTION OF THE ACTIVITY;
 - (2) HOW DID THE ACTIVITY RELATE TO A COURSE(S) AND/OR LEARNING OBJECTIVES?
 - (3) WHAT DO YOU SEE AS THE STRENGTHS OF THE ACTIVITY?
 - (4) WHAT WOULD YOU SAY ARE/WERE THE ACTIVITY'S WEAKNESSES?
 - (5) HOW WOULD YOU IMPROVE THIS ACTIVITY FOR NEXT TIME?
 - (6) WHAT DID YOU LEARN FROM THE PROCESS?
 - (7) WHAT ARE STUDENT RESPONSES TO THE ACTIVITY? ATTACH STUDENT EVALUATIONS OR ASSESSMENTS (IN ACCORDANCE WITH FERPA RESTRICTIONS YOU MUST REMOVE ALL PERSONALLY IDENTIFIABLE STUDENT INFORMATION)
 - 8) GIVE A SUMMARY OF EXPENSES FOR THE ACTIVITY.
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B. ATTENDEE LIST- SUPPORTING DOCUMENT:

In addition to the report form, *in a separate document*, attach to your email a list of attendees complete with each student major and grade level. This for IRA Committee reference only and will not be published on the IRA website. Include your name and the title of your IRA activity on the document.

C.IMAGES FROM ACTIVITY:

Finally, attach to your email up to 6 images demonstrating student participation (under 2 MB total) with captions/titles. Please attach these photos in .JPEG format directly to email. Thank you!

(1) PROVIDE A DESCRIPTION OF THE ACTIVITY

The spring break trip to Costa Rica for 19 students included four days of research activities conducted in coordination with the Great Basin Institute (GBI), University Nacional Autonomia (UNA) and Parque Nacional Las Baulas. Students received training in vegetation sampling, avian surveys, sea turtle patrols, and conducting a tourism survey. The remainder of the trip (five days) was spent traveling throughout the country with Planet Conservation to visit different ecosystems. During this time, we engaged with scientific communities at the Monteverde Cloud Forest Reserve and La Selva Biological Station, and with members of an indigenous community in a remote BriBri village.

(2) HOW DID THE ACTIVITY RELATE TO A COURSE(S) AND/OR LEARNING OBJECTIVES?

This grant supported the course, so the entire experience was transformative education in the very best sense. The following course learning objectives were achieved:

- ☐ Articulate an interdisciplinary understanding of the complexities of international conservation.
- ☐ Demonstrate an understanding of the relationship between conservation initiatives and the local community. ^[1]_{SEP}
- ☐ Demonstrate a familiarity with field research techniques used during the project (for example the use of transects to do point intercept surveys of vegetation condition, field data collection, identification of species, and recording of species behavior).
- ☐ Analyze the effectiveness of service learning activities. ^[1]_{SEP}

(3) WHAT DO YOU SEE AS THE STRENGTHS OF THE ACTIVITY?

A strength of this trip is that our CI students directly engage in scientific collaboration between international partners to support conservation. The partnership with UNA (University Nacional Autonomia) allows CI and UNA students to work side-by-side in teams to monitor various



ecosystem elements (mangrove, birds, microplastics, sea turtle nesting habitat, and tourist interactions) along the coast. The nature of collaborating with UNA students provides a broadened worldview. Furthermore, the valuable data our students collect assists the Costa Rican National Park Service staff in building a database of ecosystem condition. Finally, as we travel throughout Costa Rica, we meet and exchange ideas with many other Costa Ricans who share a strong environmental ethic. These interactions allow for an exchange of ideas and provide a powerful immersive learning experience for our students. By seeing common social and environmental problems through the lens of their Costa Rican contemporaries, CI students come to appreciate the challenges of limited resources (personal and professional) experienced in other countries.

(4) WHAT WOULD YOU SAY ARE/WERE THE ACTIVITY'S WEAKNESSES?

It is a challenge to balance our time within country between 1) doing field work/data collection at the National Park on the Pacific coast with 2) providing a breadth of in-country experiences. Both phases of the trip are extremely valuable and provide learning opportunities; therefore, we are evaluating how to provide more continuity between them. Also, much of the content in the course is about giving back to the country we are visiting (i.e. scientific exchange, helping the park, service learning). UNA has been very generous with their own time and resources. UNA contributes transportation to the research site (5 hour bus ride) and has allowed us use of the university bus and driver for 4-5 days. They also allow their faculty time away from their usual duties to work with our students. Therefore, we would like to find more ways to give back to the UNA faculty and students.

(5) HOW WOULD YOU IMPROVE THIS ACTIVITY FOR NEXT TIME?

We had eight different majors represented among our 19 students. In the future, we will try to maintain this diversity and work on further broadening our scope of majors. Providing interdisciplinary breadth enriches the experience for all involved. While in country, we will connect our travel activities during the second half of the trip more directly with the field work experiences at Las Baulas National Park during the first half. For example, we plan to make more direct comparisons of sea turtle habitat and conservation on the Caribbean side of the country with that on the Pacific side. Finally, we would like to also develop a more robust exchange with reciprocal visits from the UNA faculty to present their research at CSUCI. Our CI students from the course would interact with these scientists in a different setting (on campus

instead of the field) and it would also expand the messages from the course about environmentalism and conservation to the broader CI community.

(6) WHAT DID YOU LEARN FROM THE PROCESS?

We saw the benefits of the time devoted to partnering with institutions, including the University Nacional Autonomia (UNA), that we engage with during this trip. It provides vast benefits for our CI students in terms of forging personal and professional connections. We are continuing to work on developing and broadening these partnerships to include more disciplines and to provide opportunities for UNA staff and students to visit CI. Furthermore, after much reflection about the benefits of this course, we generated a new set of learning objectives:

1. Demonstrate a knowledge of natural history and life history of Costa Rican flora and fauna as well as the biogeography/climate responsible for species distributions (ecological relationships, life zones).
2. Gain practical skills with field methodology and research techniques.
3. Understanding, interpreting and communicating science.
4. Articulating the subtle but important distinction between natural history and environmental science/human species interactions and how they impact one another (i.e. interdisciplinarity).
5. Understand the elements of international conservation (including habitat loss, endangered species protection, developmental pressure and tourism impacts, intersection of humans and wildlife).
6. Thought to action to reflection (experience the step-wise progression from concepts and theories to practical application) (i.e. experiential learning).
7. Demonstrate (develop) an understanding of the relationship between conservation initiatives and the local community (Bribri, park service, univ students).
8. Demonstrate a knowledge of cultural history and the role of indigenous people in contemporary society.
9. Develop an understanding and appreciation of how to be a responsible scientist and global citizen (etiquette).
10. Developing an active role in improving conservation in the country (service to promote active conservation and protection within the country).

(7) WHAT ARE STUDENT RESPONSES TO THE ACTIVITY? ATTACH STUDENT EVALUATIONS OR ASSESSMENTS (IN ACCORDANCE WITH FERPA RESTRICTIONS YOU MUST REMOVE ALL PERSONALLY IDENTIFIABLE STUDENT INFORMATION)

A) Student responses to "What did you learn?"

"I learned invaluable field techniques as well as built relationships with the UNA students and faculty and everyone we interacted with in Costa Rica. We do some sort of field work each day



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*We were there that ranges from a beach environment to a mangrove environment, to a forest environment. We get to learn and practice diverse skills that we don't get around or on the CI campus. **We also learn how to build professional relationships with people who live down there that could further advance to job opportunities.***

*"Empathy. CSUCI can only teach so much about the world from an informative standpoint. When you're actually put into the environment with the people you're talking about at school, you develop a respect and admiration for what they do day-to-day. It is hard to understand culture, religion and people if you are not actively engaging with said culture. **I only wish every major would allow the opportunity for students to actually go out and engage in what they are studying.***

*"The cultural experiences we had are absolutely something I could never learn at CI. We stayed with the indigenous Bribri community and they brought us into their homes and showed us how they hunt, cook, make their homes, what plants they use for medicinal purposes, and what it is like to be a part of their community. That experience alone is something that I will never forget. On top of that, doing science in a foreign country and learning the different methodologies was something extremely valuable that I do not think I would have been exposed to otherwise. Also, **working with the students from UNA was special and allowed me insight into what it is like to be in their shoes.**"*

B) Student comments regarding "Academic quality of the program"

*"They gave interesting writing prompts to help us reflect on the trip and what we learned. We did learn about tourism, mangrove ecology, ecotourism, bird ecology and identification and tropical ecology. **It helped to bring together what I have learned in my other courses as a biology major. Overall, the reflective essays showed me how much I learned and how much I grew just from those 10 days.**"*

*"The content was great I loved that it has a lot of ESRM incorporated with the culture of Costa Rica. We really got to see two different perspectives. **I loved seeing the posters at the end of the course everyone brought back a piece of Costa Rica with them to share.**"*

*"I value this experience in particular because I feel like this is how learning should be achieved. Learning should be achieved through application and actually working in the environment. I generally resent a theoretical approach to learning in certain cases, but **this experience was truly something that took me out of my comfort zone and allowed me to learn numerous things about culture, people and a new country.**"*

*"I 100% finally understood everything that was going on in the class. **Everything fell in its place once we were out in the field.** We talked a lot about what we are going to see, what different things meant and it all came in at once in class. **When we were there, it all made sense.**"*

C) Student responses regarding "Overall experience"

"I would let everyone know that going aboard is something that should be required. It is an



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AMAZING experience. It opens your mind and makes you culturally aware of where you are from what you do for your society."

"This was an incredible experience and I hope that many more students in the future get to experience what I did."

"I feel so much more cultured and like I have a better understanding of the world now."

(8) GIVE A SUMMARY OF EXPENSES FOR THE ACTIVITY.

Total student traveling expenses \$58,600. Total IRA contribution \$39,027. Total student contribution \$19,572.

B. ON SEPARATE DOCUMENT, PLEASE ATTACH ATTENDEE LIST (PERSONALLY IDENTIFIABLE INFO REMOVED)

Class Roster for the Spring 2019 Costa Rica Trip

Student's Name	Student's Major
Miguel Romero	Biology
Chris Swan	ESRM
Alexandra Lafayette	ESRM
Chelsea Amezcua	Early Childhood Studies
Ruben Sanchez Ramirez	ESRM
Kiera Sailor	Biology
Paulina Garcia	ESRM
Jennifer Shirhall	ESRM
Lorraine Cruz	Health Sciences
Sydney Walker	Liberal Studies
Xzavier Greene	Business
Jason Suddith	ESRM
Emily Remedios	ESRM
Adriana Gonzalez	Education/Psychology
Sarah Mesler	Biology
Sycora Powell	Political Science
Alyssa Connaughton	ESRM
Monica James	ESRM
Matt Wells	ESRM



PLEASE INCLUDE UP TO 6 IMAGES AS ATTACHMENTS TO YOUR SUBMISSION



Figure 1. CI students and UNA students working together to dissect fish caught in the field for research on microplastics.



Figure 2. CI students taking a break from field work.



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Figure 3. CI students learning about ecotourism and talking with a ranger from the Monteverde Cloud Forest Reserve.



Figure 4. CI students engaging in service learning by working on trail maintenance at the Monteverde Cloud Forest Reserve.



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Figure 5. CI students traveling up river to a remote village of the indigenous BriBri tribe.



Figure 6. CI students being taught by members of the BriBri tribe to make chocolate from forest products. Here a student is grinding roasted cacao beans with a mortar and