

Short-Term Study Abroad Program Information

Please provide the following information:

Study Abroad Program Name: Tropical Entomology in Ecuador and the Galapagos
 Study Abroad (SABD) Course ID: SABD 1147
 Study Abroad (SABD) Course CRN: TBD
 Semester Program will be Offered: Maymester 2019
 Program Leader/Contact Name: Marianne Shockley
 Program Leader/Contact Phone Number: 706-542-1238
 Program Leader/Contact Email Address: entomolo@uga.edu
 Program Start Date (First meeting with enrolled students): 5/15/2019
 Program End Date (Last meeting with enrolled students): 6/4/2019
 Travel Start Date: 5/16/2019
 Travel End Date: 6/4/2019
 Anticipated Number of Total Students Participating in Program: 15
 Anticipated Number of UGA Students: 13
 Anticipated Number of Transient Students: 2
 Anticipated Number of Undergraduate Students in the Program: 15
 Total Number of Credit Hours Taken by Each Undergraduate Student: 8 to 11
 Anticipated Number of Graduate Students in the Program: 0
 Total Number of Credit Hours Taken by Each Graduate Student: NA

Please list each course offered through the program on a separate row below:

Course Title	Course Prefix	Course Number	CRN(s)	Course Type	Credit Hours	Instructor(s)	Department of Instructor(s)	Course Start Date	Course End Date	Total Lecture Hours	Total Field/ Lab Hours	Total Contact Hours*
Tropical Entomology	ENTO	4850/6850-4850L/6850L	TBD	Lecture	4	Marianne Shockley	Entomology	5/15/2019	6/4/2019	40	60	70
Special Problems in Entomology	ENTO	3900	TBD	Directed Study	3	Marianne Shockley	Entomology	5/15/2019	6/4/2019	Directed Study	Directed Study	Directed Study
Undergraduate Research in Entomology	ENTO	4960	TBD	Directed Study	4	Marianne Shockley	Entomology	5/15/2019	6/4/2019	Directed Study	Directed Study	Directed Study

*Total Contact Hours = Total Lecture Hours + (Total Field Hours) Courses require 12.5 contact hours for each credit hour earned

Please also complete the Academic Itinerary found on the second worksheet of this document.

For questions, please contact the Office of Curriculum Systems at currsys@uga.edu or 706-542-6358.

Academic Itinerary

Study Abroad Program Name: Tropical Entomology in Ecuador and the Galapagos

Study Abroad (SABD) Course ID: SABD 1147

Program Start and End Dates: 5/15/2019 - 6/04/2019

Instructors and Courses Taught:

<u>Instructor</u>	<u>Course(s) Taught</u>
Marianne Shockley	ENTO 4850/6850-4850L/6850L, ENTO 3900, ENTO 4960

Initial academic itineraries are understood to be tentative and subject to change. Please be as specific and accurate as possible.

For questions, please contact the Office of Curriculum Systems at currsys@uga.edu or 706-542-6358.

ENTO 4850/6850-4850L-6850L			
Date	The Day's Plan	Discussion Question	Assignments Due
15-May Athens	<ul style="list-style-type: none"> ◦ Morphology ◦ Orders of Insects Pt 1 ◦ Intro to Med Ent/Vector Specificity ◦ Medically Important Orders/Families/Species Collecting at Lake Herrick (2:00-5:00)	1) What are you expecting about your experience in Ecuador regarding the courses, culture, insect, plants, and/or biodiversity? Is there anything you're nervous about?	Assignments: Med Ent Question 2 (Due 10:00am)
16-May Athens Quito	Meet at UGA (12:00pm) ◦ Deta Flight 6:00pm	2) What are you expecting about your experience in the Galapagos ?	Reading: NC Ch 1 (Tropical climates/ecosystems) Assignments: Med Ent Question 4
17-May Galapagos	Flight to Galapagos <ul style="list-style-type: none"> ◦ Stubborn Plants Part 1 ◦ Basic Ecology of the Rainforest Presentation 8:30pm Student Myiasis Presentation	3) Find a plant you think is particularly adapted for living in the Galapagos. Jot down a brief description (and maybe a sketch). Be prepared to talk about why you think this plant is particularly adapted for the rainforest and its challenges based on the "basic ecology of the rainforest" presentation	Assignments: Med Ent Question 4
18-May Galapagos	<ul style="list-style-type: none"> ◦ Bird Watch 6:00am ◦ Breakfast 8:00am ◦ Natural History Tour ◦ Free time [Work on assignments] (12pm) ◦ Lunch 1:00pm ◦ Research Project Discussion (2pm) 	4) Find an insect today and sketch it. What structures help it maintain water balance,	Reading: NC Ch 2/3 (rainforest structure/function)

		<ul style="list-style-type: none"> ◦ Insect Photography and Identification (3pm) ◦ Insect Physiology (5pm) ◦ Dinner 7:00pm ◦ Evolution (8:30pm) ◦ Group Night Collecting Project (10pm) 	<p>how does it intake air, and what sensory organs does it have?</p>	
Galapagos	19-May	<ul style="list-style-type: none"> Bird Watch 6:00am ◦ Breakfast 8:00am ◦ Natural History Tour ◦ Free time [Work on assignments] (12pm) ◦ Lunch 1:00pm ◦ Meet with instructors about research project methods (6pm) ◦ Dinner 7:00pm ◦ Living Together – Symbiosis (8:30pm) ◦ Blacklighting/Identification (10pm) 	<p>5) Think about things that make you sick. Do you think you have a symbiosis with them, and if so, what kind? Why or why not? What challenges do you think arise from relationship, both from your side and the pathogen/parasite's side.</p>	<p>Reading:</p> <p>NC Ch 13 (pgs 325-33)</p> <p>(Bestiary –invertebrates)</p> <p>NC Ch 4 (Evolutionary patterns)</p> <p>Assignments:</p> <p>Med Ent Question 5</p>
Galapagos	20-May	<ul style="list-style-type: none"> Bird Watch 6:00am ◦ Breakfast 8:00am ◦ Natural History Tour ◦ Free time [Work on assignments] (12pm) ◦ Lunch 1:00pm Insect Communication (5pm) ◦ Dinner 7:00pm ◦ Student Dengue/Yellow Fever Presentation (8:30pm) ◦ Black lighting/Identification (10pm) 	<p>6) Sketch three insects and annotate your sketches with how you think these animals communicate within the species or to other species. What do you think this communication is saying and to whom?</p>	<p>Reading:</p> <p>NC Ch 5 (Coevolution)</p> <p>Assignments:</p> <p>Assignments:</p> <p>Pitch research project idea (2pm)</p>
Galapagos	12-Jun	<ul style="list-style-type: none"> Bird Watch 6:00am ◦ Breakfast 8:00am ◦ Natural History Tour 		<p>Reading:</p> <p>NC Ch 12 (Neotropical Birds)</p>

		<ul style="list-style-type: none"> ° Lunch 1:00pm ° Student Chagas presentation (8:30pm) ° Blacklighting/Identification (10pm) 	<p>7) Do you feel that most Ecuadorians are concerned with or aware of vector-borne diseases? Why or why not?</p>	<p>Assignments:</p> <p>Med Ent Question 6</p>
Galapagos	21-May	<ul style="list-style-type: none"> ° Bird Watch 6:00am ° Breakfast 8:00am ° Natural History Hike ° Lunch 1:00pm ° Work on research project, assignments ° Dinner 7:00pm ° Student Leishmaniasis presentation (8:30pm) ° Blacklighting (10pm) 	<p>8) Reflect on your time in the Galapagos. Describe two experiences that stand out to you.</p>	<p>Readings:</p> <p>Med Ent Ch 14 (Triatomine bugs)</p> <p>Assignments:</p> <p>Entomological Arthropod Observation</p>
Galapagos	22-May	<ul style="list-style-type: none"> ° Bird Watch 6:00am ° Breakfast 8:00am ° Natural History Hike ° Work on assignments (12pm) ° Lunch 1:00pm ° Work on assignments (2pm) ° Insect Growth and Development (5pm) ° Dinner 7:00pm ° Student Onchocerciasis Presentation (8:30pm) 	<p>9) What did you think of the hospital we visited? What are some of the challenges the local people may face? What sorts of challenges do you think the establishment faces?</p>	<p>Reading:</p> <p>Assignments:</p> <p>How do Insects Work?</p>
Galapagos Maqui	23-May	<p>Travel to Maquipacuna</p> <p>Orientation</p> <p>Dinner 7:00pm</p> <ul style="list-style-type: none"> ° Group Night Collecting Project (10pm) 	<p>10) Have you personally been bitten or affected by any medically important insects or arthropods on this trip? What control measures have you been using?</p>	<p>Reading:</p>
Maqui	24-May	<ul style="list-style-type: none"> ° Bird Hike 6:00am ° Breakfast 8:00am ° Natural History Tour ° Free time [Work on assignments] (12pm) ° Lunch 1:00pm ° Research Project Discussion (2pm) 		

		<ul style="list-style-type: none"> ◦ Insect Photography and Identification (3pm) ◦ Insect Physiology (5pm) ◦ Dinner 7:00pm ◦ Sacrifices for Flight Presentation (8:30pm) ◦ Group Night Collecting Project (10pm) 	<p>11) Find three immature insects and sketch them. Annotate your sketches (does it have a well-defined head, can it move, does it have legs? [etc...]) What order of insects do you think each belongs to and why?</p>	<p>Reading:</p>
				<p>Assignments:</p>
Maqui	25-May	<ul style="list-style-type: none"> Bird Hike 6:00am ◦ Breakfast 7:00am ◦ Hospital (8am) ◦ Toucanopy (10am) ◦ Lunch on the road ◦ Mariposas de Mindo (1pm) ◦ Chocolate Tour (2:30pm) ◦ Meet with instructors about research project methods (6pm) ◦ Dinner 7:00pm ◦ Metamorphosis of Color (8:30pm) ◦ Blacklighting/Identification (10pm) 	<p>12) Do you expect to observe any differences in the medically important insects and arthropods on the coast versus in the cloud forests?</p>	<p>Reading: NC Ch 14 (Deforestation and Conservation)</p> <p>Med Ent Ch 5 (Sand flies)</p>
				<p>Assignments: Mystery Writing Assignment</p>
Maqui	26-May	<ul style="list-style-type: none"> ◦ Bird Hike 6:00am ◦ Breakfast 8:00am ◦ Natural History Hike ◦ Work on assignments (12pm) ◦ Lunch 1:00pm ◦ Work on assignments (2pm) ◦ Insect Growth and Development (5pm) ◦ Dinner 7:00pm ◦ Student Onchocerciasis Presentation (8:30pm) 	<p>13) How would you define ecotourism? Is it your opinion that it has become more popular in recent years? What are some of the main advantages and disadvantages of ecotourism? 14) What are some major differences between the cloud forests of Maquipacuna and the coastal area of Esmeraldas?</p>	<p>Reading: Med Ent Ch 2 (Anopheline)</p>
				<p>Assignments:</p>

<p>Esmeraldas</p>	<p>27-May</p> <ul style="list-style-type: none"> ◦ Breakfast 8:00am ◦ Travel to Esmeraldas ◦ Lunch on the road ◦ Dinner 7:00pm ◦ Student Malaria Presentation (8:30pm) 	<p>15) What are some important roles mangroves have? How do you think this ecosystem compares to the wetlands in the US? Do you think they serve some of the same functions? What do you think are some of the challenges a mangrove plants or animals have to deal with?</p>	<p>Reading:</p> <p>NC Ch 11 (Costal Ecosystems)</p> <p>Med Ent Ch 3 (Clulicine)</p> <p>Med Ent Question 8</p>
	<p>28-May</p> <ul style="list-style-type: none"> ◦ Breakfast 8:00am ◦ Mangrove Boat Tour ◦ Lunch on the road ◦ Maquipucuna Research Project Presentations (6:00pm) ◦ Dinner 7:00pm 	<p>16) What benefits do you think the river brings to the ecosystem? What kinds of animals do you think depend on the river?</p>	<p>Reading:</p> <p>NC Ch 8</p> <p>(Rivers through Rainforests)</p> <p>Med Ent Ch 10 (Flies and Myiasis)</p> <p>Assignments:</p> <p>Med Ent Question 9</p>
<p>Esmeraldas</p> <p>Playa de Oro</p>	<p>29-May</p> <ul style="list-style-type: none"> ◦ Breakfast 8:00am ◦ Travel to Playa de Oro ◦ Lunch on the road ◦ Dinner 7:00pm ◦ Group Night Collecting Project (10pm) 	<p>17) After spending time in the village what do you think about the culture? What are some of things that surprised you most about the village or the people that live here? What do you think about the educational system here? What do you think it would be like to be completely dependent on the community and community leader to be able to survive?</p>	<p>Readings:</p> <p>Med Ent Ch. 11 (Fleas)</p> <p>Med Ent Ch 12 (Lice)</p> <p>Med Ent Ch 13 (Bedbugs)</p> <p>Med Ent Ch 15 (Cockroaches)</p> <p>Med Ent Ch 18 (Ticks)</p> <p>Med Ent Ch 19 (Scabies Mites)</p> <p>Med Ent Ch 20 (Typhus Mites)</p> <p>Assignments:</p> <p>Design a Sign</p>

			Med Ent Question 10 & 11
Playa de Oro/ Otavalo	30-May <ul style="list-style-type: none"> ◦ Breakfast 8:00am ◦ Community Project ◦ Lunch ◦ Community Project ◦ Insect Identification ◦ Dinner 7:00pm ◦ Insect Sociality (8:30pm) 	16) What differences in the insects and plants did you notice in the altitude changes? What are some of the advantages or disadvantages of living in the clouds, lowlands, or dry forests? What do you think are the main ways these ecosystems get enough moisture to sustain life?	Reading: Assignments: Med Ent Question 12
Otavalo	31-May <ul style="list-style-type: none"> ◦ Breakfast 8:00am ◦ Travel to Otavalo ◦ Lunch on the Road ◦ Dinner 7:00pm ◦ Stubborn Plants Part 2 – Living in Dry Climates (8:30pm) 	17) What are some main differences you've noticed about the vegetation in Otavalo vs along the beach and at Maqui? What sorts of abiotic factors do you think contributed to the difference in vegetation morphology? How do you think the change in vegetation affects the animals (including insects) you find in these ecosystems?	Reading NC Ch 10 (Savannahs and Dry Forests) Assignments: Scavenger hunt Night collecting research paper
Atlanta	1-Jun <ul style="list-style-type: none"> ◦ Breakfast 8:00am ◦ Lunch ◦ Old Town Driving/Walking Tour ◦ Dinner 4-Jun <ul style="list-style-type: none"> ◦ Delta Flight 680 – Fly to Atlanta (11:30pm) 	18) Jot down one experience that you thought was particularly memorable from our trip. Why does this stand out to you?	Reading: Assignments: Digital Insect Collection

	Lecture	Field
Total Contact Hours	40	60