Welcome to the Rainforests and Reality in Nicaragua Study Abroad Program. This one week course is designed to introduce you to a great variety of cultures and ecosystems. We focus on the interactions between people and the natural world, trying to understand their causes and consequences in the context of Nicaragua’s reality: poverty. Layered upon this is the global economy in which Nicaragua struggles to participate, where international trade causes both good and bad for the people and the environment. When Rainforests meet Reality, a complex set of ecological, economic, social, cultural, and other factors combine, and failing to comprehend this is what dooms so many conservation efforts.

We fly into Managua on March 3 and return to the US on March 11. Between those dates, we will travel to different locations in Nicaragua by foot, car, and boat to see the major ecosystems and cultures of Nicaragua. You will see hyperdiverse rainforests, tropical dry forests, and cloud forests atop 5000 ft volcanoes, along with heartrending scenes of poverty and struggle.

This program has several goals that form the basis for the program's structure, itinerary, and assessment methods. Students should keep these goals in mind when completing their assignments. This program seeks to help students:

1. Understand how all the elements in Nicaragua fit together to create a reality far different from ours is the objective of the course.
2. Understand major issues related to the ecosystem, environment, food supply, and social systems.
3. The interactions among these systems in Nicaragua as compare to the U.S.
4. Enhance their ability to interact with cultural differences, understand socioeconomic issues, and consider issues from diverse perspectives.
5. Develop their ability to observe the ecosystem.
6. Develop their critical, creative, and reflective thinking skills.
7. Challenge, understand, and appreciate their culture and experiences and these areas' influence on their worldviews.
8. Translate their learning into written, and oral, formats for distribution to diverse audiences, including lay-audiences.

During the course, we will be exposed to some fairly extreme conditions: 90° heat and scorching sun on the coast along with cold, misty 60° weather atop the Mombacho Volcano. Because we
are traveling during the dry season, rain is unlikely although we will probably see some brief showers on the Caribbean Coast.

Teaching Team

<table>
<thead>
<tr>
<th>Dr. Jerry Urquhart</th>
<th>Dr. Maxine Davis</th>
<th>Lauren Phillips</th>
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<tbody>
<tr>
<td>W-26e Holmes Hall Lyman Briggs Tel: (517) 353-1759</td>
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Study Abroad Schedule for 2018

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb 11</td>
<td>Sunday</td>
<td>Pre-course Meeting, C-102 Holmes Hall 7:00-9:00 pm – Tropical Nature</td>
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<tr>
<td>Feb 18</td>
<td>Sunday</td>
<td>Pre-course Meeting, C-103 Holmes Hall 7:00-9:00 pm – Globalization</td>
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<tr>
<td>Feb 25</td>
<td>Sunday</td>
<td>Pre-course Meeting, C103, Holmes Hall 7:00-9:00 pm</td>
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<tr>
<td>Mar 3</td>
<td>Saturday</td>
<td>Fly to Nicaragua</td>
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<tr>
<td>Mar 4</td>
<td>Sunday</td>
<td>Volcan Masaya, Flight to Caribbean Coast</td>
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<tr>
<td>Mar 5</td>
<td>Monday</td>
<td>Indigenous Culture, and Rainforests and Tree Planting</td>
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<tr>
<td>Mar 6</td>
<td>Tuesday</td>
<td>Rainforest Reserve</td>
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<tr>
<td>Mar 7</td>
<td>Wednesday</td>
<td>Rainforest Hike and Farm Visit</td>
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<tr>
<td>Mar 8</td>
<td>Thursday</td>
<td>Rainforest Conservation and Agriculture</td>
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<tr>
<td>Mar 9</td>
<td>Friday</td>
<td>Return to Pacific Side, Stay at Laguna de Apoyo</td>
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<tr>
<td>Mar 10</td>
<td>Saturday</td>
<td>Cloud Forest on Volcan Mombacho and Masaya Market</td>
</tr>
<tr>
<td>Mar 11</td>
<td>Sunday</td>
<td>Fly to US</td>
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Course Activities

We will have THREE required Pre-course Meetings on Sunday nights to prepare for the course on Feb 11, 18, and Feb 25 from 7-9 PM in Holmes Hall.

During the course, we will spend a great deal of time in the field, visiting different ecosystems, villages, markets, and other locations. Some of this will be hiking on trails through the forest, walking through towns, along with traveling by boat or car to several locations.

Each day, the activities will begin fairly early. There will be opportunities several mornings to go out on an early nature hike. After breakfast each, there will be a planned field trip in which everybody is expected to participate. This may be a morning activity or extend through the entire day. We will eat lunch sometime in the early afternoon and then there will either be another activity or free time. In the evenings, there will be presentations and discussions, along with some nighttime nature walks.

Enrolling

You must enroll in the course for spring semester. Please see the course guidelines for how to enroll. There are two course options: enrolling through Lyman Briggs (LB 290a, 490a, 492 or 493 sections 750), Fisheries and Wildlife (FW 480). The course is TWO credits unless otherwise arranged (three credits for
Rainforests and Reality in Nicaragua       Spring Break 2018

FW 480 and four credits for LB 492). Please contact Dr. Urquhart (urquhart@msu.edu) if you need an override.

Academic Requirements

Grading for the course will be based on participation (70%) and assignments (30%) for students not enrolled in LB 492. For LB 492, grading will be 50% participation and 50% written assignments. Student participation is key to the success of the course and will be the major component of student grades. Students will be required to participate in the majority of activities. Participating means doing the activities as well as ACTIVELY engaging in discussions, lectures, etc. It is not enough simply to be there.

Writing Requirements: During the course, students will keep a journal of their observations and thoughts, and occasionally share this with others. Upon returning to MSU, non-LB 492 students will write an article on Nicaragua of the type that might appear in National Geographic, The Economist, or Audubon Magazine. A good article will incorporate multiple sources of information as well as photographs from the course, and should be prepared with care to create a very professional product. Length of text should be about 7-10 pages double-spaced. The paper is due APRIL 15. LB 492 students will write a 12-15 page research paper that is due May 2.

Health Precautions

Please make an appointment with the Olin Travel Clinic or your family doctor regarding immunizations and preventative medications you should get. Below are some general recommendations.

Stomach Flu – This is the most likely thing you will run into in the tropics. Prevention is the best remedy. Avoid unwashed fruits, undercooked foods, and tap water. Taking Peptol Bismol (tablets or caplets) 3x a day can greatly reduce the chance of getting a stomach bug. Taking Immodium is a last resort because it prevents the body from flushing the offending organisms.

Mosquitoes are actually quite uncommon during the dry season. The dreaded mosquito-borne illnesses (Dengue, Malaria) are very uncommon and can generally be avoided, especially with insect repellent and proper preventative medication.

Stings – Ants are everywhere in the tropics. Bees and wasps are less common, but still a threat. You stand a good chance of getting stung by ants, but unless you have a “beesting allergy,” it is not any sort of threat. If you have an allergy to bees, it will extend to ant stings as well. If you have an allergy, you must bring an Epi-pen or two and we will review as a group how to use it in case of an emergency. Scorpions are present in some areas, and are best avoided by using common sense and not sticking hands into dark places. Their stings are not very dangerous, despite what the movies and folklore may tell you.

Snakebites are an incredibly unlikely occurrence even in the tropics. The danger of snakebite is greatly reduced by using common sense.

Healthcare: In case of emergencies, we will never be more than an hour from a hospital. The Office of Study Abroad provides medical insurance for students in the program.

Communications while on the trip:

Traveling abroad is a new adventure for many of you, and your families will be interested in whether you are OK. You should plan to call home at least once and send email if possible.
Telephone: Dr. Urquhart, Dr. Davis and Lauren Phillips will have cellular phones for course use in Nicaragua. When you are met at the airport, we will give you the chance to call home if your parents want to know you made it. After that, it costs $1.00 per minute to call the US, and students can rent time on the phones. The phones are a way to give brief updates to family during the course, but should not be planned on as a way to have long conversations. If you choose to bring your own cell phone and try to use it in Nicaragua, please check with your carrier to find out what the costs will be. You do not want to come home to a bill that is several hundred dollars.

Internet: We have access to the Internet through wifi at a few of the sites.

Costs of Course and Personal Money

The course fee (~$1320) and tuition are handled through Michigan State University. You should receive a Program Bill from the Office of Education Abroad. You are responsible for purchasing your own plane ticket.

During the course, almost all of your costs will be covered. Once in Nicaragua, all lodging, meals, and transportation are covered. Key expenses you will need to cover are a $10 tourist card to enter the country, and a couple of “fast food” meals that are about $3-5 each. You will need to pay for your meals in transit on the days we fly to and from Nicaragua. You may also want to buy some souvenirs before you leave, ranging from $4 T-shirts to $10 pottery to $200 paintings.

Nicaragua uses Cordobas, its own currency, but also accepts dollars (small bills, $1-$20, not torn or written on). Do not convert money ahead of time. For spending money, you will need the above mentioned tourist card and meal money, plus money for soft drinks and snacks, and money for souvenirs. To be safe, you should probably bring a minimum of $100, more if you plan on buying lots of souvenirs.
**Equipment and How to Pack**

**How to Pack:** You should pack all your equipment in two bags:

1) **Backpack or Duffel** - Your main pack should be a full-size backpack, preferably with an internal frame or a duffel. A medium sized Duffel Bag (26”-28”) is a good, inexpensive way to transport the majority of your gear. Try not to get something too big because it will have carried short distances several times during the program.

2) **A small backpack/bookbag/daypack.** A traditional daypack with shoulder straps is good. Smaller is better, but it needs to be big enough to carry all your fragile items on the plane with you. You will use it in the field to carry water, notebooks, binoculars, cameras, etc. Your daypack will go on the plane with you, and should have your camera, film, binoculars, and anything fragile in it.

**Note:** For the flight, pack your toothbrush, shampoo, deodorant, and a fresh pair of underwear and socks in your daypack in case your luggage gets delayed. Pack all medications you take regularly in your carry on bag. All **fragile items** should be carried in your daypack on the flight—camera, binoculars, etc—so they don’t get damaged. You are typically allowed one checked bag for free and one carry-on bag for the flight. There may be a charge for checked bags so you should probably try to pack in just one. Keep your plane tickets and passport in a safe place at all times.

**Quantities to bring:**

- **Pants** – 1 pairs for field, 1 clean pair for town (women may want to substitute a skirt for town pants)
- **Shorts** – 1-2 pairs (zip off pants mess up these numbers, but you can figure it out)
- **Long-sleeved field shirts** – 1-2
- **Town shirt** – 1 (can be one of your field shirts if it looks OK)
- **T-shirts or Polo Shirts** – 3-4
- **Underwear** – 4-8 pairs
- **Socks** – 4-6 pairs, maybe more
- **Hat** – 1
- **Shoes** (or light hiking boots) – 1 pair for field, one pair for relaxing time (2nd pair can be sandals).
- **Power Bars or something of the like** – 5-6.

**What NOT to bring:**

- Jeans
- Big hard suitcases
- Textbooks
- Laptop computer
- Any illegal substances
Required Field Clothes and Equipment

__ Rubber Boots / Hiking Boots.
   The best boots for rainforests are solid rubber farm boots. They can be purchased at Tractor Supply Company for $10-$15 a pair. A pair of light hiking boots (not too warm) is also sufficient for the course, though the rubber boots are better. They will get muddy at times, so an old pair is good.

__ Second pair of shoes
   You should have another pair of shoes, like a pair of athletic shoes. Might want flip-flops for a third pair.

__ Flashlight or Headlamp.
   For the night time, you will want a decent compact headlamp. Bring batteries.

__ Single flat sheet (full-size or bigger) or sleeping sack.

__ Lightweight Fleece Sleeping Bag or compact sleeping bag.
   We will stay overnight in Kahka Creek Rainforest Reserve for two nights and a lightweight sleeping bag will make this more comfortable. Do not bring a full-size sleeping bag because of space limitations.

__ Small Towel
   A smaller towel will take up a lot less space. The lighter-weight (cheaper) they are, the quicker they dry.

__ Backpack / Day Pack.
   You want to have a small backpack you can use to carry your lunch, water, sunscreen, and field equipment.

__ Long-sleeved, lightweight shirts.
   Here you can use either old button-up shirts or fancy Ex-Officio / Patagonia type stuff. Either one works great. You use long sleeves in the tropics for sun and bug protection. Mosquitoes are attracted to blue colors.

__ Pants and Shorts.
   Quick-drying nylon is the best, the lighter weight the better. Zip-off pants are nice if you can find some inexpensive ones. Heavy cotton and jeans are a no-no, they are hot, uncomfortable, and constantly wet in the tropics. Lightweight cotton is OK but nylon and polyester are better because they dry quicker. Blue is the favorite color of mosquitoes, just for advice.

__ T-shirts or Polo Shirts.
   T-shirts are the old standby. The work well when it’s not too buggy or too sunny.

__ Underwear.
   They don’t take up much room, so bring several pairs.

__ Socks.

__ Swimsuit.

__ Raincoat or Rain Poncho.
   We may get one or two showers during out time on the Caribbean Coast. If you don’t have a raincoat, just get one of the $2-$5 ponchos they sell at Meijer.

__ Wide-brimmed Hat or Baseball Hat.
   Your hat is very important for sun and rain protection. If you are sun-sensitive, bring a wide-brimmed had, not a baseball hat.

__ Peptol Bizmol tablets or caplets.
   Taking Peptol Bismol regularly before each meal can significantly reduce the chance of getting a stomach flu while in Nicaragua. There are new caplets that are easy to take.

__ Bug Spray.
   DEET based insect repellents work best, but are bad for your skin. They are what we use most of the time. Olin Health Center recommends 30% DEET concentrations.

__ WATERPROOF Sunscreen.
   Minimum SPF 30, stronger is better. During the dry season in Nicaragua, the sun is INTENSE! You will get burned if you don’t use sunscreen (even dark-skinned people). Fair complexions require higher SPFs (45+). You will still get a great tan while using sunscreen. If you try to tan without sunscreen you will burn badly, and it will all peel off.

__ Personal Hygiene Supplies.
   Bring your own soap, shampoo, deodorant, etc. Repacking shampoo, etc., in smaller bottles saves a lot of space, or you can buy the travel-sized. Women should bring feminine hygiene supplies, as they are hard to get in Nicaragua.

__ Extra Batteries, Charger for Phone.
Bring several sets for key items (like flashlights and camera). Electricity (US-Style plugs) for charging items is available at most locations.

--- Money Belt or pouch.

- It is best to keep your money out of sight and protected.

--- Power Bars, Clif Bars, or some sort of snack.

- There will be times when we are out in the field and you need an energy boost. Power bars are nice because they don’t melt in the heat. Packages of nuts are also good.

--- Sunglasses.

--- Extra Glasses or Contacts.

- If you wear glasses, bring an extra pair! The same for contact lens wearers.

--- Sufficient Supply of Prescription Medication.

- It is almost impossible to get most prescription meds in Nicaragua. To be safe, bring 2 one-week supplies, one in your backpack and one in your checked luggage.

--- Zip-Loc Bags.

- Please keep your passport and plane tickets in a Zip-Loc bag. You will also need some for liquids on plane.

**Optional Equipment**

--- Camera (STRONGLY RECOMMENDED).

- Long after the trip, this will be the most important item you brought with you. A Point-and-Shoot Digital is probably your best option.

--- Memory Chips.

- Get a couple memory chips so you don’t run out. In an emergency you can download your pictures to Dr. Urquhart’s laptop.

--- Battery Charger.

- Nicaraguan electricity (where available) is standard 110v, the same as in the US. No special plug is needed.

--- Binoculars.

- Full-size binoculars are much better than the compact ones. We have a couple pairs you could borrow during the course but you need to take care of them. Dr. Urquhart has pairs you can borrow for the trip.

--- MSU Hat / T-shirts, etc.

- You will probably make some new friends in Nicaragua and may want to give them an MSU hat or T-shirt for a reminder. Nicaraguan students love things with other Universities on them. Things that say “Michigan State University” rather than just sporting a block S are preferred, since most people in Nicaragua don’t recognize the block S.

--- Gifts for Kids and Local People.

- Most of the people in Nicaragua own almost nothing. Valuable things to them include t-shirts, soap, shampoo, pocketknives, fish hooks, fishing line, thread, needles, scissors, and many more necessities in life that are readily available to us but more difficult for impoverished people to obtain. The Dollar Store is a nice place to visit to get some things, or used things that are in good condition are excellent gifts.

--- Sandals/Tevas/Crocs/Flip-flops.

- These should be worn only indoors and on the beach. Anywhere else, they expose too much of your foot to some of the “nasties” found in the tropics. Although a small poisonous snake may have trouble biting through a tennis shoe, sandals give them great targets.

**Learn More about Nicaragua’s Rainforests – Optional Books**

*A Neotropical Companion.* John Kricher.

- The closest thing to a general “textbook” on tropical diversity. If you’re a biology student, this is a fun book to read to get ready for the program. $19.95


- A good analysis of deforestation in Costa Rica and Nicaragua.

*The Wildlife of Costa Rica: A Field Guide* by Fiona A. Reid, Twan Leenders, Jim Zook and Robert Dean