There is a connection between medicine, research, and government—and that connection is global health. During this course, you’ll receive hands-on experience working in global medicine as we travel together to a developing country and conduct free medical service clinics. You’ll meet people, care for them, learn their culture, and see the challenging reality facing the global public health field—all while proposing your own solutions to global health problems, analyzing ground breaking medical research, and applying basic anatomy and physiology principles in the field.

**Purpose of the Course:** Introduce you to the physiology of disease research, tropical medicine, and global health issues that can be addressed with basic global health and physiology understanding while providing an outlet for service and global knowledge.

**Our Goal:** To synthesize current anatomy/physiology research with practical global medicine challenges, developing strategies and solutions to current global health issues while participating in a global health initiative through medical service learning.

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**Instructor and Course Meetings**

**Dr. Beth Overman** - Instructor  
**Email:** beth_overman@ncsu.edu  
**Phone:** 515-2293  
**Office Location:** Research Building III, room 224  
**Office Hours:** By appointment (basically, anytime you need me!)

**Days:** M T W TH  
**Time:** 5:30-7:25  
**Location:** EB3 2240  

This meeting is required. See more information under ‘attendance policy’.
LEARNING OUTCOMES

Students will:

1. Apply basic physiologic principles to human medicine in case studies using challenges of disease treatment in developing countries.
2. Describe examples of medical challenges through historical/medical research.
3. Hypothesize causes of disease by integrating physiologic knowledge and construct suitable solutions.
4. Propose interdisciplinary, context-sensitive solutions to global health issues using evidence-based resources and tools.
5. Critique current research in applications of physiology to medicine in developing countries.
6. Define and describe global medicine from reproductive, nutritional, metabolic, and immunologic perspectives.
7. Debate common misconceptions relating to health in both developed and developing countries.
8. Summarize service experience including relevant application of human physiology and global medicine with examples.
9. Critique treatments applied in the field in relation to their knowledge of global medicine.
10. Participate in an in-depth global health service experience with international communities and organizations, reflecting, assessing, and presenting the impact of their service contribution.

ACADEMIC INTEGRITY

Students are required to comply with university policies on academic integrity and student conduct found in the Code of Student Conduct found at http://policies.ncsu.edu/policy/pol-11-35-01

All course work submitted for a grade must be your own. University standards of academic integrity forbid either giving or receiving unauthorized help on graded work. Violations of University standards will be prosecuted. You will need to sign the academic integrity statement on each written assignment. Your signature binds you to the honor Code of Student Conduct.

Academic integrity also means behaving in a manner that is considerate of others and respectful to all. Any behavior in class that interferes with the opportunity for other students to participate and succeed will result in the offending student being asked to leave and counted as absent.

The final project for this course is an online portfolio representing your learning over the next 5 weeks. This portfolio will be your words and your words alone, and any outside information will be subject to copyright laws.

Your signature on any test or assignment indicates "I have neither given nor received unauthorized aid on this test or assignment."
TRANSPORTATION

Students are required to provide their own transportation to and from Belize. Transportation to and from the airport as well as organizing/booking flights to Belize up to each individual student. All transportation in Belize is coordinated by International Service Learning.

SAFETY AND RISK ASSUMPTIONS

There is inherent risk in traveling, in the continental US and abroad. Although there can be no guarantee of safety when traveling anywhere, including within the U.S., risks can be managed and minimized. We will manage these risks by:

- We will not travel in any politically dangerous situations.
- We only work in areas where full-time staff and families live/work for ISL.
- ISL staff to student ratio is one of the highest in our industry.
- ISL medical programs travel with medical teams to make medical services available to our students as well as those we serve,
- Unlike other programs, there are no strangers in the ISL program. Almost all staff, even drivers, cooks, and guides, are part of the ISL network.

GRADE COMPONENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight (pts)</th>
<th>Letter Grade Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Assignments/ Presentation</td>
<td>50</td>
<td>Successful completion and turning in of in-class activities and giving the one-time presentation.</td>
</tr>
<tr>
<td>Article Analysis</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Proposal</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Portfolio/Blog</td>
<td>250</td>
<td>Details and rubrics will be provided on the class Moodle site.</td>
</tr>
<tr>
<td>Final Reflection</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Total points possible</td>
<td>500</td>
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</tbody>
</table>

This course relies upon North Carolina State University’s Moodle site for communication, discussion boards, document posting, and organizational calendars. Students are expected to maintain an online presence at the course Moodle site, staying up-to-date on all postings and assignments there. All students are expected to respect the privacy of each other by not sharing or using identification information outside of the course.
ATTENDANCE AND INCOMPLETE GRADE POLICY

As classwork is a portion of your grade, and in-class assignments cannot be made up without documentation of excused absence, attendance is essential to high performance in the course. Attendance in class is expected. **An absence may be excused if appropriate documentation is provided.** Excused lecture absences carry no penalty. Missing more than 3 class meetings (unexcused) will result in a failing grade. Arriving late to class can be considered an unexcused absence. You may read about University attendance regulations, including university-defined excused absences, at [http://policies.ncsu.edu/regulation/reg-02-20-03](http://policies.ncsu.edu/regulation/reg-02-20-03).

A grade of incomplete (IN) may be assigned by the instructor. This will be considered only under exceptional circumstances that seriously interrupt your work and are not caused by your own negligence. **An IN grade is appropriate only if your record in this course is such that successful completion of missed assignments or exams would enable you to pass.** If an IN is granted, it is the student’s responsibility to understand and comply with the terms under which the instructor will change the grade upon completion of required work.

If an extended deadline is not authorized by the instructor or department, an unfinished incomplete grade will automatically change to an F after either (a) the end of the next regular semester in which the student is enrolled (not including summer sessions), or (b) the end of 12 months if the student is not enrolled, whichever is shorter. Incompletes that change to F will count as an attempted course on transcripts. The burden of fulfilling an incomplete grade is the responsibility of the student. The university policy on incomplete grades is located at [http://policies.ncsu.edu/regulation/reg-02-50-03](http://policies.ncsu.edu/regulation/reg-02-50-03).

ACCOMMODATIONS AND NON-DISCRIMINATION POLICY

Reasonable accommodations will be made for students with verifiable disabilities. In order to take advantage of available accommodations, student must register with the Disability Services Office ([http://www.ncsu.edu/dso](http://www.ncsu.edu/dso)), 919-515-7653. For more information on NC State’s policy on working with students with disabilities, please see the Academic Accommodations for Students with Disabilities Regulation at [http://policies.ncsu.edu/regulation/reg-02-20-01](http://policies.ncsu.edu/regulation/reg-02-20-01).

NC State University provides equality of opportunity in education and employment for all students and employees ([http://www.ncsu.edu/equal_op/](http://www.ncsu.edu/equal_op/)). Accordingly, NC State affirms its commitment to maintain a work environment for all employees and an academic environment for all students that is free from all forms of discrimination. Discrimination based on race, color, religion, creed, sex, national origin, age, disability, veteran status, or sexual orientation is a violation of state and federal law and/or NC State University policy and will not be tolerated. Harassment of any person (either in the form of quid pro quo or creation of a hostile environment) based on race, color, religion, creed, sex, national origin, age, disability, veteran status, or sexual orientation also is a violation of state and federal law and/or NC State University policy and will not be tolerated. Retaliation against any person who complains about discrimination is also prohibited. NC State’s policies and regulations covering discrimination, harassment, and retaliation may be accessed at [http://policies.ncsu.edu/policy/pol-04-25-05](http://policies.ncsu.edu/policy/pol-04-25-05). Any person who feels that he or she has been the subject of prohibited discrimination, harassment, or retaliation should contact the Office for Institutional Equity & Diversity at 919-515-3148.
# Course Schedule (Subject to Change)

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Assignment/Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/19</td>
<td>Introduction to Global Health</td>
<td>Guided Reflection</td>
</tr>
<tr>
<td>5/20</td>
<td>Review: Anatomy and Physiology</td>
<td>Guided Reflection</td>
</tr>
<tr>
<td>5/21</td>
<td>Westernizing the Developing World</td>
<td>Guided Reflection</td>
</tr>
<tr>
<td>5/22</td>
<td>Research: Infectious Disease <em>(Ebola)</em> (PHP)</td>
<td>Guided Reflection</td>
</tr>
<tr>
<td>5/27</td>
<td>Guest Speaker, Mr. Tate Rogers, Research: Excretory System (PHP)</td>
<td>Guided Reflection</td>
</tr>
<tr>
<td>5/28</td>
<td>Research: Infectious Disease <em>(HIV/AIDS)</em> (PHP)</td>
<td>Guided Reflection</td>
</tr>
<tr>
<td>5/29</td>
<td>Research: Infectious Disease <em>(Mosquito-born)</em> (PHP)</td>
<td>Guided Reflection</td>
</tr>
<tr>
<td>5/30</td>
<td>Research: Nutrition (PHP)</td>
<td>Guided Reflection</td>
</tr>
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<td>6/2</td>
<td>Research: Nutrition (PHP)</td>
<td>Guided Reflection</td>
</tr>
<tr>
<td>6/3</td>
<td>Guest Speaker, Dr. Kristin Shroeder, Research: Medicine/Home remedies</td>
<td>Guided Reflection</td>
</tr>
<tr>
<td>6/4</td>
<td>Guest Speaker, Mr. Josh Sanderson, Research: Cancer</td>
<td>Guided Reflection</td>
</tr>
<tr>
<td>6/5</td>
<td>Research: Maternal Care (PHP)</td>
<td>Research Proposal Draft Due</td>
</tr>
<tr>
<td>6/6</td>
<td>Medical Service Trip</td>
<td>Guided Reflection</td>
</tr>
<tr>
<td>6/11</td>
<td>Working Session on Portfolio</td>
<td>Guided Reflection</td>
</tr>
<tr>
<td>6/12</td>
<td>Working Session on Final Presentation</td>
<td>Guided Reflection</td>
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<tr>
<td>6/13</td>
<td>Peer Review Proposal and Portfolio</td>
<td>Guided Reflection</td>
</tr>
<tr>
<td>6/14</td>
<td>Research: Maternal Care (PHP)</td>
<td>Guided Reflection</td>
</tr>
<tr>
<td>6/15</td>
<td>Research: Maternal Care (PHP)</td>
<td>Guided Reflection</td>
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<tr>
<td>6/16</td>
<td>Research: Maternal Care (PHP)</td>
<td>Guided Reflection</td>
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<tr>
<td>6/17</td>
<td>Working Session on Portfolio</td>
<td>Guided Reflection</td>
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<tr>
<td>6/18</td>
<td>Working Session on Final Presentation</td>
<td>Guided Reflection</td>
</tr>
<tr>
<td>6/19</td>
<td>Working Session on Final Presentation</td>
<td>Guided Reflection</td>
</tr>
<tr>
<td>6/23</td>
<td>Final Presentations</td>
<td>Final Portfolio Due</td>
</tr>
</tbody>
</table>

## Student-Led Discussion Day
- Poverty’s Remains
  - Research: Respiratory
- Medicalizing the Developing World
  - Research: Infectious Disease
  - Research: Excretory
- Curious George’s Pharmacy
  - Research: Infectious Disease
  - Research: Maternal Care

## Article Analysis Day
- Research: Cardiovascular
## Tentative Belize Itinerary

<table>
<thead>
<tr>
<th>Day</th>
<th>Morning</th>
<th>Afternoon</th>
<th>Evening</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 1</td>
<td>Arrive and Settle in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day 2</td>
<td>Country Orientation</td>
<td>Medical Orientation</td>
<td>Emergency Medicine Class</td>
</tr>
<tr>
<td>Day 3</td>
<td>House visits, Community 1 and 1a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day 4</td>
<td>Clinic, Community 1 and 1a</td>
<td></td>
<td></td>
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<tr>
<td>Day 5</td>
<td>Community share time Community 1 and 1a</td>
<td>Natural remedy hike</td>
<td>Suture and Injection Class Tropical Medicine Seminar</td>
</tr>
<tr>
<td>Day 6</td>
<td>House visits, Community 2 and 2a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day 7</td>
<td>Clinic, Community 2 and 2a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day 8</td>
<td>Hospital Visits</td>
<td>Hospital Visits</td>
<td></td>
</tr>
<tr>
<td>Day 9</td>
<td>Caye Caulker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day 10</td>
<td>Depart morning of June 16th</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Preparing to Travel in the Developing World

#### Visit your doctor:
If you are an NC State student, the health center does travel clinics based on where you are traveling to. If you visit their clinic, they'll not only make sure you receive all of the appropriate vaccines, they will also give you a medicine travel kit. Below is a list of medical and general items that I suggest you bring with you to Belize. Start collecting them now, don’t wait until later!

**Suggest:**
- Neosporin
- Band-aids
- Pepto-Bismol
- Pain reliever

**Other items:**
- Sunscreen
- Bug repellant (at least 40% DEET recommended)
- Hand sanitizer/Baby wipes
- Hat
- Water purification tablets
- Scrubs (at least 2 pair)
- Empty reusable water bottle
- Watch with second hand/timer
- Pens/Clipboard
- Blood pressure cuff
- Stethoscope
- Otoscope
- *Donations (over the counter meds/vitamins, coloring books, crayons, toiletries)*

*The medical clinics we will run operate on donation. Whatever you can bring is appreciated and will be used!

#### Safety:
Traveling in general can be risky, in the developing world can be even more so. We will take every precaution as we travel to Belize:

1. Never go anywhere alone, always use the buddy system.
2. Do not carry expensive electronics or excess amounts of money on your person, or in one place.
3. We will always travel in motor vehicles/boats together, but never travel in a vehicle alone.
4. Be aware of your surroundings.
### General Travel Reminders—Checklist

**Have you booked your flight?**
When you book your flight, make sure you are arriving in BZE before 2:00pm on Saturday, June 7th, and departing BZE for RDU on the morning of June 16th. Below is the flight I will be traveling on. You are welcome to pick another flight, but make sure the arrival and departure times follow the rule above!

Here is the flight that I recommend (or one similar):

**Departing flight**: AA Flight 955 (RDU-MIA at 6:50am) and AA Flight 2454 (MIA-BZE at 10:10am)

**Returning flight**: AA Flight 2440 (BZE-MIA at 11:30am) and AA Flight 1458 (MIA-RDU at 8:25pm)

**Have you contacted your bank?**
Make sure they know that you are going out of the country. Most banks will cut your card off if they do not realize you’re going to be using it abroad! It’s a good idea to bring several forms of payment with you, just in case your card does not work out of country. Most Belizean stores will accept US dollars, but not US coins. The current exchange rate of a Belizean dollar to a US dollar is $1.99 to 1, so your US dollar will go roughly twice as far in Belize.

**Have you been to the travel clinic/doctor?**
Here’s a link, NC State Students: http://healthcenter.ncsu.edu/student-health-services/medical-clinics/travel-clinic/

### Frequently Asked Questions

**I’m not great at Spanish—is that okay?**
Yes! The national language of Belize is English, but the majority of the rural populations speak Spanish only. You will always have access to a translator—but now is a great time to explore a new language!

**Will there be internet available?**
Yes. The internet is not 100% reliable, and only available in parts of the hotel. You will be able to write your reflections, but should inform family of limited access to email.

**How can I keep in touch with my family while in Belize?**
Most cell phones are internationally compatible, contact your cell phone provider for cost and details. Since there is internet available, Skype is your best (free) option to talk to your family.

**This is a 400/500 level class. Is it hard?**
Not hard—challenging! You are expected to bring all of your effort to class each day. Your portfolio, proposal, and article analyses are all assignments that will test you beyond that of a multiple choice exam, and will require substantial work on your part. You’re expected to come to each class having read the assigned reading, prepared to engage in discussion and debate.

**I’m nervous about trying new foods. What will we eat?**
Belizean food is very starch-heavy, with plantains, rice and beans, beans and rice, tortillas, and fresh fruit. If you are nervous, bring some trusted foods with you. It’s a great idea to have a granola bar handy! Make sure whatever you bring will not dissolve in high temperatures.

**I usually don’t get sunburned. Should I bring sunscreen?**
YES. Your melanocytes will thank you. A hat is also a great idea.

**Exactly how bad are the mosquitoes?**
Bad. I know you’re hesitant to buy the serious bug spray, but trust me—buy the serious bug spray. Also, be responsible about taking your malaria medication regularly. You do not want to come home with that.

**I’m still interested in fundraising opportunities. What can I do?**
Make sure you check out ISL’s Good Samaritan project. It’s a way for your family, friends, and colleagues to help support you on this trip. Many people want to help others do good work!

**Will I have time to buy souvenirs?**
There will be (some) time almost every day for you that isn’t in clinics or community visits. We will have class each night, and you will be required to keep up to date on your reflections. But, I hope you’ll have time to explore Orange Walk—and shop. The best time to souvenir shop is in Caye Caulker.

**What kinds of donations can I bring?**
Over the counter meds (cough/cold, allergy, pain relievers, etc), vitamins (children, adult, and pre-natal), deodorant, toothbrushes, toothpaste, soap, coloring books, crayons, stickers…we’ll use the medicine in the clinics, and everything else in the community day. Donations is how ISL operates, so make every effort to collect them and bring them with us!

**We’re traveling to Central America during Hurricane season. Is this a problem?**
We are traveling during hurricane season, but Study Abroad, ISL, and Dr. Overman are all ready with a plan if we need to leave country.

**Should I bring my computer?**
Yes, you’ll need it for class and to keep up with your reflections as we travel. There will be safe places for you to store it while you are in the clinics.

**I want to have tons of time to explore and sight-see. When will I get to do that?**
You are on the wrong trip, and traveling with us for the wrong reason! Our focus, first and foremost, is serving others and participating in the global health effort.
I will do everything I can to keep you (and your families) updated as we prepare to depart and travel to Belize. If your families want to follow what we are up to while in Belize and the clinics, I will be tweeting photos and updates on our activities, and blogging about our time in the clinics.

For emergencies, your parents can reach us in Belize at (919)-922-9299.

@beth_overman

www.bethoverman.wordpress.com

Looking back....what do you wish you would have done differently?

“I would have tried to learn more Spanish before going to Belize.”

“I tell everyone to have patience. Traveling and working in teams can be difficult, but patience helps!”

“I would have done more of the guided reflections while I was on the trip instead of waiting till the end!”

“Journal every day. Bring a notepad with you to the clinics, the doctors are smart and selfless people that you’re going to learn a lot from. You don’t want to forget the advice they give you, what you observe, and how they interact with their patients.”

“Bring lots of vitamins. You’ll run out of them in the pharmacy, I promise.”

“Be open-minded to the culture and willing to try new things (especially out of your comfort zone).”

“Things don’t always go according to plan, so go with the flow!”

“Actively participate in class—I learned a lot more by participating and asking questions.”

“Remember to take it all in! You’re not there for very long, so try to squeeze everything you can out of the experience.”

“I would have brought more sturdy shoes—sandals are terrible hiking shoes.”

Additional Information

Belizean Embassy Website: http://www.embassyofbelize.org/

US Passports and International Travel Information: http://travel.state.gov/content/passports/english/country.html

- Here you can register your travel (great idea!)
- Keep informed of any global travel alerts

Stay tuned for more information!

I will do everything I can to keep you (and your families) updated as we prepare to depart and travel to Belize. If your families want to follow what we are up to while in Belize and the clinics, I will be tweeting photos and updates on our activities, and blogging about our time in the clinics. For emergencies, your parents can reach us in Belize at (919)-922-9299.