Peruvian Andes Exploration
Syllabus
PTRM 291 (2 credit class)

Summer 2020

Course Description:
The Peruvian Andes Exploration course takes place in the high sierra region of Peru within the Cordillera Blanca (white mountains) in Huascaran National Park. The Cordillera Blanca is the World's highest tropical mountain range with remarkable plant and animal diversity due to its highly varied climate and equatorial proximity. The Park was pronounced a Natural Heritage of Humanity Site in 1975, is recognized as a Biosphere Reserve, and in 1985 it was declared a World Heritage Site by the United Nations Educational, Scientific, and Cultural Organization in its effort to help achieve a sustainable balance between the sometimes conflicting goals of conserving biological diversity, promoting economic development, and maintaining cultural values. The area provides bountiful educational opportunities in both the environmental and cultural arenas, pertaining to topics like water quantity and quality from both climate change and a prominent mining economy, ecotourism as a means of generating income and protecting natural resources, cultural history and pride in a time of ‘modernization’, amongst others.

The main course components are as follows:

1) A period of orientation and acclimatization, including two acclimatization hikes around Huaraz, a student run food-buy in a traditional market and interacting with locals.

2) A four-day hiking component in the Santa Cruz valley, taking the students to altitudes between 3000-4750 meters, winding between 6000+ meter glaciated peaks. During the hiking sections, students will have the opportunity to study flora and fauna specific to the area, as well as give and listen to presentations on Park and Land Management Issues, Ecotourism in Developing Countries, and Environmental Issues unique to the area including climate change, water issues, mining, and more.

3) A 6-day mountaineering skills course on a glaciated mountain called Yanapaqcha, 5460 meters above sea level. The course is designed to teach novices the risk assessment and appropriate management techniques of alpine climbing. Through formal classes and extensive hands-on practice accompanied by professional instructor supervision and review, members of the course will become contributing members of a roped climbing team and culminate their experience on the mountain with a participant-led summit attempt on Yanapaqcha (as skill and comfort level allow).

4) A post course debrief, celebratory banquet in Huaraz, and return to the United States.

ITINERARY:

<table>
<thead>
<tr>
<th>DAY</th>
<th>ACTIVITY</th>
<th>HOURS:</th>
</tr>
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<tbody>
<tr>
<td>Aug 1</td>
<td>Depart USA, arrive in Lima. Transfer to hotel, night in hotel.</td>
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<tr>
<td>Aug 2</td>
<td>Transport to Huaraz departing at 9am. 8-hour bus ride,</td>
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<td></td>
<td>arrival time approx 5:30pm, transfer to hotel. Dinner in town, night in</td>
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<tr>
<td></td>
<td>hotel.</td>
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<tr>
<td>Aug 3</td>
<td>Orientation meeting, Q&amp;A, try on needed gear. Acclimatization hike in</td>
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<td></td>
<td>the afternoon to Puka Ventana.</td>
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<tr>
<td>Date</td>
<td>Activity</td>
<td>Details</td>
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<tr>
<td>Aug 4</td>
<td>Dinner in town, night in hotel.</td>
<td>Acclimatization hike to Lake Churup (4500m). Dinner in town, night in hotel.</td>
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<tr>
<td>Aug 5</td>
<td>Prep Day (and rest!). Food buy orientation and shopping list creation. Head to the market to buy provisions for Santa Cruz Trek. Pack and prepare for the following morning’s departure. Rest and/or deal with personal needs. Dinner in town, night in hotel.</td>
<td>LECTURE: 4 hours LAB: 4 hours</td>
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<tr>
<td>Aug 6</td>
<td>6am transport to Cashapampa – begin Santa Cruz Trek</td>
<td>LECTURE: 1 hour</td>
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<td>Aug 7</td>
<td>SANTA CRUZ TREK – 4-6 hours hiking. Arrive Taullipampa, set camp. Evening class – Flora &amp; Fauna of the Andes (2 hours)</td>
<td>LECTURE: 1 hour</td>
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<tr>
<td>Aug 8</td>
<td>SANTA CRUZ TREK – 6-8 hours hiking, up and over Punta Union pass (4750m), arrive at Paria campsite, set up tent. Evening class – Environmental Issues (2 hours)</td>
<td>LECTURE: 2 hours</td>
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<tr>
<td>Aug 9</td>
<td>SANTA CRUZ TREK – 4-5 hours hike to Vaqueria. Meet vehicle and transport to Cebolla Pampa. Afternoon class – Historical Conservation Battles – Jim Bartle (2 hours)</td>
<td>LECTURE: 2 hours</td>
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<tr>
<td>Aug 10</td>
<td>Begin Mountaineering Course. Instructors arrive 9am, transfer a short distance up to Yanapaqcha and hike to Morraine camp, 4 hours. Set up camp. Afternoon Classes (see Mt. Course Curriculum for details of classes)</td>
<td>LECTURE: 4 hours</td>
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<tr>
<td>Aug 11</td>
<td>MT COURSE</td>
<td>LECTURE: 2 hours LAB: 6 hours</td>
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<tr>
<td>Aug 12</td>
<td>MT COURSE</td>
<td>LECTURE: 2 hours LAB: 6 hours</td>
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<tr>
<td>Aug 13</td>
<td>MT COURSE</td>
<td>LECTURE: 2 hours LAB: 6 hours</td>
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<td>Aug 14</td>
<td>MT COURSE – Summit. Debrief Climb</td>
<td>LECTURE: 1 hour LAB: 8 hours</td>
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<td>Aug 16</td>
<td>Transfer to bus station for 11am bus to Lima, flights out after 11pm to USA.</td>
<td>TOTAL HOURS: LECTURE: 21 LAB: 30</td>
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Learning Outcomes:

Via interactions with local people (during both urban and rural components), students will gain an understanding of Peru’s high sierra culture and how it is different from their own. Through journaling exercises and discussions, they will be able to examine cultural elements such as family, work ethic, environmental connection, language and communication, costs of living, and more.

Students will learn basic Spanish communication skills and be given opportunities to practice them during their food-buy for the trekking part of the expedition, in the cultural exchange activity in Cashapampa, and throughout the expedition via conversation with the local staff people (donkey drivers, cooks, porters). There are various outcomes. In addition to the actual vocabulary they are able to learn while in Peru, they will experience a unique communication challenge which has much to teach including experimentation with alternative forms of expression, what it feels like to be a minority, and perhaps provide motivation to pursue further study of Spanish.

Through active participation in the daily tasks of outdoor life and expedition travel, students will learn skills such as navigation and map reading, camp selection and set-up, cooking and hygiene, group care, daily leadership responsibilities, first aid skills, risk evaluation and management, and responsible environmental practices.

Students will investigate and prepare a presentation on various topics pertinent to the area they will be traveling in such as water quantity and quality, land management, history and culture of the area, environmental conditions/issues, ecotourism, glaciology, and more. Through experiential learning and further reading and research, students will develop a deeper understanding of the topic of their choosing.

The 6-day alpine curriculum will teach students how to assess and manage the risks of glaciated, mountain terrain. Students will become contributing members of a climbing team, learning how to read the terrain and make appropriate decisions to safely move their team through it. They will also learn self and assisted rescue techniques for crevasse falls or other accidents that can unfold in the alpine. The detailed class schedule is outlined below in the “Mountaineering Course Curriculum” section.

MOUNTAINEERING COURSE CURRICULUM:

Course Objectives:
Prepare participants with little to no mountaineering experience to be contributing members of a climbing team by investigating the hazards that snow covered mountains offer, then systematically learning the skills and techniques to combat these dangers. A peak climb objective is included to provide participants with a supervised climbing experience, where they can take the lead (as appropriate) of the climb, with an instructor supporting and advising as necessary.
Student Presentation Topic Ideas:

- Thoughts on the diet &/or food production/preservation/sales of 'developing' areas of Peru (like Huaraz) - and generally developing countries of the world. Since you are doing a food buy and will see the market, and will have eaten a few days in town, you will have some perspective based upon what they see and can complement that with information they look up or source via interviews, etc.
- History of the Huascaran National Park and the park system in general in Peru. Thoughts (after spending two weeks in it) on how they are doing with their management strategies. Write up a proposed management plan for the park.
- Altitude physiology and illnesses (evaluation and treatment of them)
- Glaciology
- Effects of tourism has on a town without other big-money generating industry (with the exception of the mines, that do very little for Huaraz)
- Environmental stuff - flora, fauna of the area. Weather patterns of this part of the world, seasons, natural disasters, water issues as the glaciers recede

Skills:

- Hazard Evaluation
- Equipment Use & Care
- Walking in Crampons
- Climbing Knots
- Self & Team Arrest
- Rope Team Travel
- Snow/Ice Anchors
- Belay Systems
- Haul Systems
- Crevasse Rescue
- Glaciology
- Top Rope Management
- Vertical Ice Climbing
- Altitude Physiology
- Expedition Planning
- Route Finding
- Peak Climb
**Itinerary (classes detailed in bold italics):**

**Day 1:**
Take a short transport from Cebolla Pampa to the trailhead for Yanapaqcha moraine camp. Hike to camp. Participants will be carrying backpacks with both individual and group gear. Hike for approximately 3 hours to the campsite and set up camp / organize equipment. Preliminary skills begin this day, including *introduction to mountaineering & hazard management, equipment use and care, climbing knots, and altitude physiology.*

**Day 2:**
Wake up about 6:30am, have breakfast, and get dressed and prepared for a day on the glacier. Hike about 30 minutes up to the ice and begin with practical skills including *walking with crampons, kicking steps/following tracks, using an ice axe to walk and self belay, self-arrest, team arrest, rope team travel techniques, and snow/ice anchors.* Around 4:30 pm, wrap up for the day and descend back to camp for dinner and sleep.

**Day 3:**
Spend the morning in campsite learning *belay systems, equalized anchors, and haul systems* - all important components of the crevasse rescue system. After thoroughly understanding the system on dry land, head to the glacier to put these new skills to the test on the snow and at the edge of a live crevasse. The entire afternoon is dedicated to the practice of this important skill, *crevasse rescue,* which is a common hazard of all glaciated climbs. We’ll return to camp at about 5:30, have dinner, and sleep.

**Day 4:**
Skills review day, small groups leading teams over the glacier. Leave campsite at 7:30 a.m. and head up to the ice to practice various techniques and *scenarios of glacier travel.* Participants take charge of their rope teams using the skills learned in the previous 2 days and are presented with *problems to solve pertaining to terrain, hazards, group management,* etc... We wander through crevasse fields and up/down steep slopes where *both running and fixed belays* will be used. At some point during the day, a surprise *crevasse rescue* will be performed. In the early afternoon, group will head to an ice wall to learn *top-rope anchor systems, set up an ice climb, and spend a few hours climbing.* Basic *climbing technique will be discussed as well as lead climbing* as there is interest. Around 2:30 pm, a *pre-summit discussion* will take place and plans will begin for the following days climbing objective. Participants will determine what needs to be done in preparation for the climb (*route recon, equipment prep, rope team divisions, food & water prep*) and divide up the responsibilities amongst themselves. Dinner will be served around 5pm and everyone will get to sleep early in anticipation of the next days climb.

**Day 5:**
Rise and shine about 3:00 am for breakfast and gearing up for the climb. Head up to the glacier and begin the summit attempt in pre-determined rope teams. Depending upon snow conditions, weather, and team health/fitness, the summit can be reached in 4-6 hours. The descent will take 3-4 hours and students should be back in camp by mid afternoon for a warm lunch and some rest. Those who wish to continue with skills will head back up to the glacier or to a location where the instructor(s) can work on anything participants are still wanting to learn/practice. *Debrief climb* in the evening.
Day 6:
Breakfast at 7:30am, pack up camp, and begin the hike out to the road where a transport will be waiting for the return to Huaraz.

Summary of Course Requirements:
- Students will be expected to read the assigned readings prior to that day's discussion/lecture so that they may participate.
- While in Peru, the students will keep a journal which they will turn in after their trip. Journals should include four entries from the trek and three from the mountaineering section.
- Students should prepare a presentation that they select from a list of outlined topics that discuss environmental, economical, and cultural issues of this area. This requirement will count for 40% of their class grade.

Assessment/Grading:

- Structured daily journal assignments: 25%
- Journal Spot Checks: 10%
- Student Presentations: 40%
- Participation: 15%
- Personal Conduct: 10%

Required Texts/Readings:
- In the Shadow of Melting Glaciers by Mark Carey – a history of water management and conflicts in the Cordillera Blanca.
- Jim Bartle’s Manuscripts, Historic Conservation Battles in Huascaran National Park.
- Skyline Adventures Mountaineering Course Manual (each student will be provided this at the course start)

A note on Conduct:
We will be living in a group setting in a remote and high altitude environment, and as travelers we will be representing our group, the University of Montana, and our country. Therefore, personal conduct is integral for a safe and rewarding trip. We will educate you on proper expedition behavior and expect you to follow the guidelines set forth. Students are expected to refrain from abusive drinking and illicit drug use. Students will also be expected to respect the cultural norms of Peru and act accordingly. Students will need to come to all pre-trip meetings to ensure they have a clear understanding of the trip. They also will need to take responsibility for their personal physical preparations/training for the trip. In conclusion, we will not tolerate inappropriate behavior while in this course.