DUKEENGAGE IN CHILE
Developing workforce skills and conserving the forest environment

Dates: May 16 - July 11, 2018
(Dates subject to change up until the point of departure.)

Service Themes
- Environment & Conservation
- Economic & Workforce Development and Social Enterprise

Program Focus
Participating in efforts to develop and strengthen workforce skills related to the transition of this temperate forest from logging to ecotourism. Supporting conservation activities including limnology of glacial lakes, re-forestation of native trees, assisting local botanical nurseries, and monitoring endangered species.

Curricular Connections: While all students are welcome to apply, this program may be of particular interest to students studying public policy, environmental policy, or economic development. (See below for additional details about connecting this program to your academic work.)

Program Leader
Jose Miguel Sandoval, Guest Lecturer, Sanford School of Public Policy. Jose Miguel Sandoval has published work on child rights as well as studied trends in Arab-American public opinion. Through leading DukeEngage Chile, he hopes to promote awareness about conservation and sustainability in the area.

Program Overview
During their stay in Chile, students will work with the Huilo Huilo Foundation, the local organization based in Santiago and the town of Neltume that focuses on promotion of human development, conservation of native plants and animal species endemic to the Huilo Huilo area. Students will participate in two main projects:

First, a set of activities aimed at providing local entrepreneurs in the ecotourism industry with modern productivity tools. These activities may include: designing websites, videos, promotional material and apps aimed at improving entrepreneurship skills among artisans (primarily women) and contractors working directly in ecotourism. Some artisans will be of Mapuche origin (the indigenous people of Chile). A specific project of promotion of their handicrafts is planned.

A second set of activities is designed to add to the community partner’s knowledge base of the resources existing in the reserve. Students will assist in assessing water quality in five of the reserve’s glacial lakes Students will also measure and assess the presence of native trees in areas identified by the Reserve for future planting. Time permitting, students will participate in measuring the presence of an endangered species (Pudu Puda) and help to create a database of sightings of this elusive mammal.

Students will also engage in other activities during the program, including cultural excursions, discussion groups, writing blogs, and a final debriefing.
Student Learning Objectives/Outcomes
Students will be exposed to projects in the social and natural sciences. They will learn to interact in meaningful dialogue with the indigenous communities and will develop skills in limnology and flora and fauna identification.

Partnership Opportunities
Students will actively participate in ongoing activities of the Huilo Huilo Foundation. At least four main themes will be addressed, and potential activities include:

- Improvement of labor skills: The household survey taken in Year 1 of the program, aimed at understanding the community’s transition from logging to ecotourism, is now being used to identify segments of the labor force in need of development of labor skills. Students will support local ecotourism entrepreneurs by, for example, designing websites that promote the work of local “artesanas;” preparing videos to educate tourists about the safety of activities such as zip lines, white water rafting, and trekking; or designing apps to disseminate information to tourists.
- Measuring water characteristics of the Reserve lakes: Students may travel to five glacial lakes to measure water characteristics and the presence of subaquatic life, and to collect information on the fauna in the adjacent environment. Currently, information about these lakes is mostly anecdotal and privy to only a small group of community members. For the first time, a knowledge base about the lakes will be made available to the community at large. Students will report on characteristics of the lakes through comparisons of their water quality, location, depth and support of animal life.
- Supporting the re-forestation effort: Students will travel to areas identified by the Huilo Huilo Forestry Reserve for replanting of native trees and documenting the presence of invasive trees and bushes using photography. Students will engage with staff scientists at the Reserve to evaluate findings after each field visit. This service activity is essential to establishing a link between the community and the Forestry Reserve.
- Preventing the extinction of the smallest deer on Earth: Working with the director of conservation in charge of identifying and locating Pudu Puda using trap cameras is an important component of the conservation project. The information obtained in this project will contribute to a better understanding of the presence of Pudu Puda in the Huilo Huilo Reserve. Only anecdotal information is available about this elusive small deer. Using a scientific approach at measuring its presence and location, students will contribute to building a database of sightings taken during the spring and summer of 2017. The community will gain knowledge about this animal through dissemination efforts in schools and other community gatherings.
- Building a labyrinth: Students will contribute to the marking and planting of a labyrinth of native bushes to be establish in the Reserve’s nursery.

Program Requirements
Language Requirements: Intermediate-level Spanish is required.

Course Requirements: Coursework in conservation and biology is preferred but not required. Any coursework in web or app design would be beneficial.

Other Skills: Students must be motivated and willing to work extensively with laptops/tablets, cellphones, cameras, limnology testing kits, and their hands and legs (extensive walking and the physical activity of re-planting seedlings is involved). Students must also be motivated to work in close collaboration with others, including personnel of the Huilo Huilo Foundation in Neltume, tourist contractors from the towns of Neltume and Puerto Fuy, and local indigenous organizations. Students must be willing to learn new skills and gain new experiences, while demonstrating patience and flexibility. Some background in biology and/or fieldwork is preferred but not necessary. Working knowledge of photography of natural settings may be helpful. Also, knowledge of fishing from lake shores will be useful.

Personal Qualities:
- Commitment to honest and ethical behaviors – actively seeks to understand and adhere to the values, policies, procedures, and protocols of DukeEngage and their host organization/community; lives up to commitments and promises they make to others.
• Ability to work productively on a supervised team – respond to feedback and critique from co-workers and supervisors with maturity and openness to improvement; listen actively and communicate courteously; respond with patience and perseverance to new or unanticipated situations and obstacles; accept responsibility for their actions; balance their personal expectations of the DukeEngage volunteer experience with the realities of working on short-term projects in cultural and workplace settings that are new to them.
• Self-reliance and self-confidence – understands and meets their own physical and emotional needs in new environments with an age-appropriate mixture of optimism and realism.
• Empathy and cultural sensitivity – effectively and respectfully communicates and interacts with people of different ages, ethnicity, religions, and traditions; demonstrates curiosity about the lives of others without judgment.

Curricular Connections
Courses in innovation and entrepreneurship, web and app design, conservation, education, and limnology are relevant to this program, as well as courses across disciplines that address poverty and economic development in rural communities. Students taking the following courses would benefit from and can contribute greatly to this project: ENVIRON102, ENVIRON153, ENVIRON201, PUBPOL256, PUBPOL267, PUBPOL271S, MMS380, ISS 240, and ISS 241L.

Program Details
Description of Community: The Huilo Huilo Foundation Complex is located in Neltume, a small town in the Panguipulli Province located between two lakes, Panguipulli to the West and Pirihueico to the East. Neltume has a population of around 2,400 people. Five miles to the Southeast, is Puerto Fuy (population 600), a port community in Lake Pirihueico. This lake serves as a link to an international pass to Argentina, about five miles east of the southern shore. Neltume and Puerto Fuy are small, relatively remote communities with limited infrastructure. The closest airport is in the city of Valdivia, about 100 miles away. In addition to these two small towns, there is a territory to the East of Lake Neltume inhabited by indigenous communities belonging to the Mapuche People (population 600). These are indigenous communities, inhabiting the region for over 3,000 years. The project will work with three independent communities located about four miles west of Neltume.

Housing and Meals: Students will stay in lodge-style housing that is part of the Huilo Huilo Foundation Complex. Housing will consist of multi-person rooms with beds, nightstands, and closets. Each lodge has a kitchen and a living room. One of the lodges includes a computer lab of 6 stations and a printer. One of the lodges will support meal preparation and service for the group. Students will cook for themselves at least one day a week and most evenings. The meals (five days a week) and housekeeping services are provided by local staff.

If you do not eat certain types of food for cultural, religious or personal reasons, please contact the DukeEngage office, dukeengage@duke.edu, to discuss whether or not your dietary needs can be reasonably accommodated at this program site.

Electricity (220V, outlets have two-pin plugs that are common in central Europe) and wireless Internet are provided. Laundry machines are available on site, although students must provide their own detergent. Bathrooms are located in each lodge and have hot water tanks. All heating in the lodges is provided by wood stoves. Temperatures will vary from 30 to 50 Fahrenheit. Rain occurs frequently. Snow is possible.

Transportation: Ground transportation will be available between the Araucania Airport (120 miles northwest) and the Huilo Huilo Foundation Complex in Neltume. Local transportation from the Complex to all areas included in the project will be provided.

Communication: Internet access is available at the Huilo Huilo Foundation Complex. Students can decide to bring their laptops, but DukeEngage is not responsible for the loss, theft, or damage of personal property or electronic devices. Cell phones with international plans will be provided for each student for the duration of the program.

DukeEngage 2018 Program Profile – Chile
Local Safety and Security; Cultural Norms, Mores and Practices: As part of their planning, DukeEngage strongly advises all prospective applicants to familiarize themselves with the common challenges travelers encounter at this program site in order to make an informed application decision that is right for them. We recommend starting with these two resources:

- the International SOS (ISOS) portal for up-to-the-minute travel, health and security advice (Log in to the Duke ISOS portal with your Duke NetID)
- the Diversity, Identity and Global Travel section of the DukeEngage website.

Opportunities for Reflection: Weekly discussion sessions will be held in the afternoon or evening. Discussion sessions will focus on a theme or topic that will be selected the week before. Topics of the sessions will include discussion with a contractor about his business plan, conversations with “artesanas” on the prospects of their work, dialog with community leaders on promoting entrepreneurial activities. Students will be expected to write and post at least one blog (more are encouraged). Sample blogs will be provided, and students must get approval from Program Director or Site Coordinator before each blog is posted.

Other Opportunities: Much of the work will be collaborative and in groups, so autonomy and private space may be limited. There are opportunities for walks outdoors where the complex is located. The town of Neltume has a few stores, hostels and restaurants. In the vicinity, there are two hotels serving tourists of the Huilo Huilo Reserve. These hotels are highly ranked and priced accordingly. Students will have access to these facilities as regular tourists. There will be opportunities for autonomy in the evenings and students will behave as expected by the DukeEngage code of conduct. The Huilo Huilo Foundation requires that no outside visitors are allowed in the residences.

A visit to the town of Valdivia is planned after four weeks in Neltume. This is a university town of about 150,000. A visit to the university and a discussion with a local physicist (a glaciologist doing research in Volcano Mocho-Choshuenco, located 5 miles south of Neltume) has been arranged. Ocean swimming will not be allowed in any DukeEngage program.