MOUNTAINS TO THE SEA: ECOSYSTEMS OF CHILE

CRN: Undergraduate: FOR 499; Graduate: FOR 599 Special Topics in Forestry

Credits: 3 undergraduate; 2 graduate

Offered: March, 2023

Course Instructors:

Dr. Carlos Gonzalez-Benecke
Oregon State University; Forest Engineering, Resources and Management

Dr. Ron Reuter
Oregon State University; Forest Ecosystems and Society

Dr. Daniel P. Soto
Universidad of Aysén (Chile); Department of Natural Sciences and Technology

Course Description

This course explores the ecological, climatic, and management dimensions of forest management, conservation, and restoration of socio-ecological systems through an immersive experience in a temperate north-Patagonian ecoregion of Chile. Over a period of one week, students will be part of an intensive investigation of forest ecology and management in a wide range of Chilean Patagonia forest ecosystems. This will include natural forests and managed forest plantations in a range of settings from the coast to the Andes foothills to the arid steppe at the East side of Patagonia. The students will interact extensively with Chilean students and Chilean faculty who are working on various aspects of forest ecology, resource conservation, research, and management.

Students will be exposed to multiple socio-ecological perspectives, requiring them to listen and observe carefully, think critically, and reflect deeply on the complex web of issues facing Chilean forest managers and conservationists. Through this immersive learning experience, students will be able to critically analyze forest conservation, restoration, and management challenges in their own home countries.

Tentative Itinerary

The course will be conducted primarily in two locations: 1) Coyhaique, city home of University of Aysén (UA) main campus; 2) Puerto Guadal, a village located on the shores of Lake General Carrera.

Oregon State University students will work and learn alongside faculty and students from University of Aysén (Chile) for part of the week. Activities will include forest tours, field ecology measurements and analyses, assistance with the research of Chilean researchers, and group presentations.

After the long trip to Coyhaique, students will receive a welcome dinner at a local restaurant. During the first 3 days, we will develop activities in areas that cover a range in water deficit regimes, from steppe to wet evergreen forests. Afterwards, we will travel south to General Carrera Lake, having a stop at Cerro Castillo National Park to learn about a conservation program for Huemul, the Patagonian deer. The next 3 days we will stay at Puerto Guadal, from where we will have hiking and tourism activities in the area. On Saturday morning we will travel to Balmaceda airport to return to Oregon.

Three to four weeks after returning to the U.S., group presentations will end the activities of the course. In this last session the students will have the opportunity to share with the rest of the group their thoughts and views about topics covered during the course.

Table 1. Schedule of daily activities.

Day			Place	Activity
0	Fri	03/24	Portland - Santiago	Depart PDX (or other airport if e-campus)
1	Sat	03/25	Santiago - Coyhaique	Arrive at **Balmaceda** Airport by 5:00pm. **Lunch on own.** Travel as a group to Lodging Place in Coyhaique. Shuttle on own ($10) Free afternoon **Welcome Dinner** (Taberna Dolbek) *Overnight in Coyhaique (Hotel Entre Cumbres)*
2	Sun	03/26	Coyhaique - Coyhaique Alto	Depart: 8:30 am Coyhaique Alto (**Dry site**) Activities with University of Aysén Faculty • Archeological Sites (Las Quemas rock shelter) • Visit Lenga Forests. • Visit Steppe ecosystem. Field Lunch Arrive: 4 pm *Overnight in Coyhaique (Hotel Entre Cumbres)*
3	Mon	03/27	Coyhaique - Reserva Rio Simpson	Depart: 8:30 am Visit University of Aysén (meet Faculty) Travel to Reserva Rio Simpson (**Wet site**) Morning: Reserva Rio Simpson (CONAF staff). Lunch at Puerto Chacabuco. Afternoon: Aiken Park (Evergreen Forests - Riesco Lake). Arrive: 5 pm **Dinner on own** *Overnight in Coyhaique (Hotel Entre Cumbres)*
4	Tue	03/28	Coyhaique - Reserva Coyhaique	Depart: 8:30 am Travel to Reserva Coyhaique (**Intermediate site**) Activities with University of Aysén Faculty • Pine plantations for erosion control. • Lenga forests restoration • Field Lunch Afternoon: Visit to Aysen Natural History Museum *Overnight in Coyhaique (Hotel Entre Cumbres).*

5	Wed	03/29	Coyhaique - Cerro Castillo National Park - Puerto Guadal	Depart: 7:30 am Travel to Puerto Guadal • Visit Cerro Castillo National Park: Huemul (Patagonian deer) conservation • Visit Wall of Hands Archeological Site • Viewpoints for pictures Field Lunch Arrive: 5:00 pm *Overnight in Puerto Guadal (Mallin Colorado)*
6	Thu	03/30	Mallin Colorado Hicking Day	Depart: 9:00 am • Hiking to Views of Lakes and Glaciers (4 hours) Field Lunch Arrive: 2:00 pm Free afternoon *Overnight in Puerto Guadal (Mallin Colorado)*
7	Fri	03/31	Puerto Bertrand Eco-tourism day	Depart: 8:00 am Travel to Puerto Bertrand • Rafting in Baker River • Visit Confluence of Rivers Baker and Nef Field Lunch Arrive: 3:00 pm Program debrief. Group presentations **Farewell Dinner** *Overnight in Puerto Guadal (Mallin Colorado)*
8	Sat	04/01	Coyhaique - Balmaceda	Depart: 6 am Travel to Balmaceda Airport. Adjourn. Depart no earlier than 12 pm from Balmaceda

Catalogue Description

With the explicit goal of enhancing global learning, this field-based course immerses students in the challenges and opportunities of forest ecology, restoration and conservation, and management in a part of Chile that has many parallels with the Pacific Northwest. Students will learn from hands-on field research about managing and in some cases restoring Chilean forests for a variety of uses, from timber production to wildlife habitat to ecosystem services. The global context of forest management, restoration, and conversion will be emphasized, with the aim of preparing students to critically analyze similar issues throughout the world.

Student Learning Goals/Expected Outcomes

Upon completion of this course, students will be able to:

1. Articulate key concepts of forest ecology as applied to forest management and conservation.
2. Work collaboratively in interdisciplinary teams toward established research, education and outreach goals.
3. Develop and articulate research questions germane to course themes, collect relevant primary and secondary data using appropriate research methods, synthesize research findings and present them through professional oral and written communications.
4. Analyze and articulate interconnections between local conditions and global ecological, social, political, and economic trends affecting forest conservation and management.

Prerequisites

To register for this course, students must:

1. Have achieved at least sophomore standing, and a 2.75 GPA or permission of instructor.
2. Submit a complete application through the OSU GO system, which includes a personal essay, unofficial transcripts, and recommendation.

Student Learning Assessment

Each student will prepare a course portfolio documenting their learning experience and outcomes. Portfolios will include a combination of the following:

1. Personal learning objectives and self-assessment of learning
2. Field notes, writing assignments, journals
3. Class critiques of student presentations
4. Graded final projects, which will consist of videos, podcasts, or on-campus presentations that summarize what was learned and student experiences
5. Student and faculty assessment of student participation in and contribution to class activities

Evaluation of student performance: Grading A-F. Students will be assessed on student participation in preparatory field trip in Oregon (10%), activities in Chile (30%), closing presentations in Chile (20%) and final project presentation at OSU (40%).

Learning resources: there will be no textbook for this course; relevant readings and other materials (e.g., popular media, news articles, videos) will be provided in a Box folder.

Statement Regarding Students with Disabilities: Accommodations are collaborative efforts between students, faculty, and Disability Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at 541-737-4098.

Expectations for Student Conduct: All students will be expected to follow the ***student conduct and community standards*** of Oregon State University (http://studentlife.oregonstate.edu/studentconduct/offenses-0). Cheating or plagiarism by students is subject to the disciplinary process outlined in the Student Conduct Regulations. Students are expected to be honest and ethical in their academic work.

Academic dishonesty is defined as an intentional act of deception in one of the following areas:

- **CHEATING** - use or attempted use of unauthorized materials, information or study aids or an act of deceit by which a student attempts to misrepresent mastery of academic effort or information. This includes unauthorized copying or collaboration on a test or assignment or using prohibited materials and texts.
- **FABRICATION** - falsification or invention of any information (including falsifying research, inventing, or exaggerating data and listing incorrect or fictitious references.
- **ASSISTING** - helping another commit an act of academic dishonesty. This includes paying or bribing someone to acquire a test or assignment, changing someone's grades or academic records, or taking a test/doing an assignment for someone else (or allowing someone to do these things for you). It is a violation of Oregon state law to create and offer to sell part or all of an education assignment to another person (ORS 165.114).
- **TAMPERING** - altering or interfering with evaluation instruments and documents.
- **PLAGIARISM** - representing the word or ideas of another person as one's own OR presenting someone else's words, ideas, artistry, or data as one's own. This includes copying another person's work (including unpublished material) without appropriate referencing, presenting someone else's opinions and theories as one's own, or working jointly on a project, then submitting it as one's own.

Behaviors disruptive to the learning environment will not be tolerated and will be referred to the Office of Student Conduct for disciplinary action.

Student Bill of Rights: OSU has twelve established student rights. They include due process in all university disciplinary processes, an equal opportunity to learn, and grading in accordance with the course syllabus: https://asosu.oregonstate.edu/advocacy/rights.

COVID STATEMENT:

While we're all excited and invigorated that the OSU campus has reopened and we will hold in-person classes again, it is key to recognize this quarter will likely be unique as campus-life has not returned to pre-COVID norms and we are likely to hit some 'road bumps' along the way. Additionally, I am certain you all had a different experience over the past ~18 months—both in your coursework and in your personal life. As such, we all come into the Fall term with different levels of comfort and preparedness. I will do my best to create the best learning environment for all of you, no matter your background. I also hope that you will all do the same to create the best learning environment for yourself and your fellow students. Some guiding principles:

• Please communicate with me early and often if you require accommodations. I have tried to design the course to remove obstacles and stress for all. All lecture materials and lab materials will be available on the Canvas site. Additionally, if offices are too small for meetings, we will move to a larger space or outside. However, I also need you to let me know how I can provide a better learning experience during these challenging times.

• Your health and well-being—both mental and physical—should be your priority. Ask for what you need to be supported in this class and I will try to do everything I can to accommodate.

• I will be flexible and understanding with you and ask that you do the same for me. As such, the syllabus is subject to change depending on issues that may arise through the quarter. I will ensure that the most recent version of the syllabus is posted on Canvas. Any substantial changes will also be announced in class and via email. Please check your OSU email regularly.

• Please respect the State-level and OSU COVID guidelines (https://covid.oregonstate.edu/). Thus, you must all be in compliance with the OSU vaccine requirements. Face coverings (worn properly, covering mouth and nose) are required in all public indoor spaces and, as such, will be required at all times in the classroom and computer labs. Please follow this requirement to respect others and to protect yourselves, your classmates, and your/their loved ones.