Sub-Antarctic Biocultu ral Conservation Program
University of North Texas & Universidad de Magallanes
www.chile.unt.edu, www.umag.cl/williams

Tracing Darwin's Path (UNT) & Field Biocultural Conservation (UMAG-CHIC)

26 December 2025– 11 January 2026
(includes travel dates, 12/26/2025, 1/11,2026)
Program & Syllabus (Tentative)

Course Catalogue Information: BIOL 4054/5054 and PHIL 4054/6781

UNT Professors

- Dr. Ricardo Rozzi, *environmental philosopher* & *conservation biologist*, UNT-UMAG-CHIC, Ricardo.Rozzi@unt.edu
- Dr. Zacchaeus Compson, *conservation* biologist, UNT, Zacchaeus.Compson@unt.edu

UNT Invited Professors

- Ms. Raina Joines, Principal Lecturer, Department of English, UNT, Raina.Joines@unt.edu
- Ms. Rachel Black, Principal Lecturer, College of Visual Art, UNT, Rachel.Black@unt.edu
- Ms. Elaine Pawlowicz, Associate Professor of Art, Distinguished Teaching Professor, Department of Studio Art, UNT, Elaine.Pawlowicz@unt.edu

CHIC Professors

- Dr. Carlos Valeris, ornithologist, CHIC, Chile
- Dr. Carola Cañón, zoologist, CHIC, Chile
- Dr. Gabriel Vidal, Philosopher, CHIC, Chile
- Dr. Laura Sanchez-Jardon, botanist – ecologist, UMAG - CHIC, Chile
- Dr. Tamara Contador, freshwater ecologist, UMAG - CHIC, Chile
- Dr. Weronika Weil, Philosopher, CHIC, Chile
- MFA Paola Vezzani, sculptor, CHIC, Chile

CHIC Student Teaching Assistants

- Ms. Alejandra Rebolledo, ornithologist, Mexico & UMAG - CHIC, Chile
- Ms. Isavo Kimberly Vera Retamal, Veterinary, Universidad Austral de Chile - CHIC

CHIC Administrative – Logistic Course Coordinators

- Ms. Jennifer Torres, *CHIC - CEO*, Punta Arenas, Chile, jennifer.torres@umag.cl
- Ms. Paula Parra, *CHIC International Courses Coordinator*, CHIC, Puerto Williams, Chile, Paula.Parra@umag.cl

COURSE DESCRIPTION:

Overview: The University of North Texas (UNT), study abroad course, Tracing Darwin's Path (TDP) is part of UNT's Sub-Antarctic Biocultural Conservation Program (SBCP; www.chile.unt.edu). It is taught in partnership with a masters-level class in conservation, Field Biocultural Conservation at the University of Magallanes (UMAG), Chile. Both courses are also taught as part of the Chilean Long-Term Socio-Ecological Research (LTSER) Network's program of field courses, coordinated by the Cape Horn International Center.

The Field Biocultural Conservation (FBC) and TDP courses will be held between December 27, 2025, and January 11,2026 (dates include travel days). Students participating in both courses will be involved in the same activities throughout the courses. These activities involve preparatory tasks prior to the course, post-course activities, and for those interested, continued analysis of data.

COURSE GENERAL OBJECTIVES:

Biocultural diversity has been defined as the "diversity of life in all its manifestations -biological, cultural, and linguistic- that are interrelated within a complex socio-ecological adaptive system." Addressing modern day environmental issues requires approaches that consider this multi-faceted meaning of diversity. In this context, this course will provide students with interdisciplinary research, conservation, and education experience at one of the most pristine wilderness areas remaining in the world. The courses will explore ways of defining, studying, communicating, and conserving biocultural diversity. These goals will be achieved by exposing students to first-hand experience using the case study of the creation and implementation of the OEP as a long-term ecological study site that serves to *link society and development with biodiversity, history and ecosystems* in the CHBR.

SPECIFIC OBJECTIVES:

1) To study various ways of approximating diversity in its multiple manifestation and scales.
2) To observe, describe, and investigate in a philosophically comparative way, and ecologically-integrated way, conspicuous (e.g., birds, mammals) and less conspicuous (e.g., aquatic invertebrates, non-vascular plants) taxonomic groups.
3) To utilize the OEP and the CHBR as concrete examples of integrating environmental ethics and ecological sciences into biocultural conservation, using the Field Environmental Philosophy (FEP) approach developed by the SBCP research team.
4) Partner students from different cultures along with different academic interests, cultural issues, and perspectives to provide the opportunity for an interdisciplinary experience that integrates philosophical, ecological, environmental, and conservation issues. Through these opportunities, students will discover and better understand their roles as global citizens.

Instructors will strive to provide a characterization of scientific and philosophical research to help distinguish between these two approaches and identify their complementarities.

Research topics of the TDP-FBC Wintermester 2025-26 courses

The general topic of these courses is biocultural conservation. It has a strong field component in which students get first-hand encounters with the diversity of people inhabiting the sub-Antarctic Magellanic ecoregion and explore together the main habitat types (including penguin colonies, watersheds dominated by *Nothofagus* forests, etc.). These activities will include study sites in OEP and in the Robalo Watershed on Navarino Island. A specific schedule of activities is provided in the Tentative Schedule.

Grading

Course assignments

Natural History / Art Journal (50%)

When reading Charles Darwin's journal Voyage of the Beagle about his five-year trip around the world, it is striking how he blends scientific observation with reflections on the broader implications, context, and surroundings (including cultures) he encountered. Other examples include Lewis and Clark's writings about the Western United States. We would like to trace Darwin's pathand ask each student to keep a journal of that day's reading, reflections, activities, and achievements. Entries should include reflections on the assigned readings and/or activities, as well as observations made during fieldwork. Ideally, field notes will be taken with a waterproof pen (or pencil) in a journal with waterproof paper (such as Rite in the Rain, All-Weather Journal). However, other notebooks can be used, but they must be bound and stored in a sealable plastic bag. The maximum size for the field notebook should be approximately 8.5" x 11" when open to two pages. This size makes it easy to Xerox the journal and carry it in the field, which will be necessary since recordings must be made on the day of the activities. Additionally, an art notebook (which can be the same as the above) will be needed, with the same dimensions but with a hard cover and 180 to 240-weight paper suitable for drawing. Other art supplies will be provided in Chile. Student journals will be checked randomly throughout the course, and suggestions for improvement will be given to enhance the journal format. It's expected that entries are kept reasonably up-to-date, legible, and well-organized. This document will serve as a valuable record of your thoughts and experiences while in the field and may be useful in the future end of the class. Journals will be collected on January 16, 2026, and may be copied before being returned to the student.

Participation & Presentation of Research Results (50%)

A list of mandatory, suggested, and supplemental readings is provided in the section following the list of activities. Student responsibilities include preparing in advance, attending all discussion sessions and field exercises, asking questions, and expressing themselves creatively and concisely in their work. Ways to earn points for participation include contributing positively to class discussions of readings and participating in field exercises. Contributing positively requires having read and thoroughly understood the assigned readings and, at a minimum, being able to raise important questions, if not provide definitive answers. Students will also prepare PowerPoint presentations after analyzing samples and presenting preliminary results.

Graduate students will, additionally, lead various biological and philosophical "evening discussions" (1-2) during the Field Environmental Philosophy components of the course.

UNIVERSITY OBLIGATIONS AND POLICIES

BEHAVIOR

Study abroad trips require considerable flexibility, maturity, and cultural sensitivity. The culture and the political system you will be exposed to in this class will be different than the US and may provoke strong emotional responses. We expect that you will strive to understand the culture and learn to reason through any uncomfortable, but productive, experiences.

HEALTH, SAFETY, LEGAL ISSUES ABROAD

UNT's study abroad program will provide guidance regarding legal issues associated with travel to Chile. They will also provide travel health insurance information via the study abroad application link.

Academic Dishonesty Policy: Students are responsible for reading, understanding, and knowing UNT's Academic Dishonesty Policy that can be found at: http://www.vpaa.unt.edu/academic_integrity.htm. Academic dishonesty in this class is unacceptable and will not be tolerated in any form.

Disability Accommodation Statement: The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with an accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request accommodation at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. *Students are strongly encouraged to deliver letters of accommodation during faculty office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student.* For additional information see the Office of Disability Accommodation website at http://www.unt.edu/oda. You may also contact them by phone at 940.565.4323.

Drop/Withdrawal Information: Drop/Withdrawal Information and other important Academic Dates can be found at www.essc.unt.edu/registrar/schedule/scheduleclass.html

READINGS

Most readings can be found on-line and downloaded as PDFs documents from:

UNT library site (UNT student credentials required; Password: TBD)
http://guides.library.unt.edu/c.php?g=415168&p=2828887

UMAG-Omora site (Password: biocultural)
http://www.umag.cl/facultades/williams/?page_id=4212

Required Textbooks

Goffinet, B., R. Rozzi, L. Lewis, W. Buck & F. Massardo. 2012. *The Miniature Forests of Cape Horn: Eco-Tourism with a Hand-lens ("Los Bosques en Miniatura del Cabo de Hornos: Ecoturismo con Lupa")*. Bilingual English-Spanish edition. UNT Press-Ediciones Universidad de Magallanes, Denton, TX and Punta Arenas, Chile. 448 pp. ISBN 978-1-57441-282-6.

Rozzi, R. & J.E. Jiménez (eds.). 2014. *Magellanic Sub-Antarctic Ornithology. First decade of long-term bird studies at the Omora Ethnobotanical Park, Cape Horn Biosphere Reserve, Chile*. University of North Texas Press-Universidad de Magallanes, Denton, TX and Punta Arenas, Chile. 364 pp. ISBN-13: 978-1-57441-531-5.

Rozzi, R., F. Massardo, C. Anderson, S. McGehee, G. Clark, G. Egli, E. Ramilo, U. Calderón, C. Calderón, L. Aillapan & C. Zárraga. 2010. *Multi-Ethnic Bird Guide of the Sub-Antarctic Forests of South America*. University of North Texas Press-Ediciones Universidad de Magallanes, Denton, TX and Punta Arenas, Chile. 235 pp. ISBN-13: 978-57441-282-6.

Required Readings

Contador, T.A., J.H. Kennedy, R. Rozzi & J. Ojeda. 2015. Sharp altitudinal gradients in Magellanic sub-Antarctic streams: patterns along a fluvial system in the Cape Horn Biosphere Reserve (55ºS). *Polar Biology* DOI 10.1007/s00300-015-1746-4

Darwin, C. 1838. Tierra del Fuego. Pp. 204-231, in *The Voyage of the Beagle*. Reprint, London: Everyman's Library, 1975.

Elphick, C.S., J.E. Jiménez, R. Reyes & R. Rozzi. 2014. Seasonal dynamics of the Sub-Antarctic bird community in different habitats of the Cape Horn Biosphere Reserve. Introduction to Section 2, pp. 185-187, *in* Rozzi, R. & J.E. Jiménez (eds.), *Sub-Antarctic Magellanic Ornithology, First Decade of Bird Studies at Omora Ethnobotanical Park: Cape Horn Biosphere Reserve*. UNT Press-Ediciones Universidad de Magallanes, Denton TX, USA - Punta Arenas, Chile.

Hynes, H.B.N. 1975. The stream and its valley. Edgardo Baldi Memorial Lecture. *Verhandlungen des Internationalen Verein Limnologie* 19: 1-15.

Ippi, S., C. Anderson, R. Rozzi & C. Elphick. 2009. Annual variation of abundance and composition in forest bird as assemblages on Navarino Island, Cape Horn Biosphere Reserve, Chile. *Ornitología Neotropical* 20: 231-245

Leopold, A. 1949. Foreword (pp. vii-ix), 65290 (pp. 87-92), Thinking like a Mountain (pp. 129-133), The Land Ethic (pp. 201-226), in *A Sand County Almanac and sketches here and there*. Oxford University Press, New York.

Miller, K.K., E.G. Ritchie & M.A. Weston. 2014. The human dimensions of dog-wildlife interactions. Pp. 286-303, *in* M.E. Gompper (ed.), *Free-ranging dogs & wildlife conservation*. Oxford University Press, Oxofrd, U.K.

Ojeda, J., T. Contador, S. Rosenfeld, C.B. Anderson, A. Mansilla & J. Kennedy. 2010. *Guía para la identificación de los invertebrados marinos y dulceacuícolas de la Reserva de Biosfera Cabo de Hornos*. Ed. Universidad de Magallanes, Punta Arenas.

Ralph, C.J. 2005. The body grasp technique: a rapid method of removing birds from mist nets. *North American Bird Bander* Apr-Jun: 65-70.

Rozzi, R., X. Arango, F. Massardo, C. Anderson, K. Heidinger & K. Moses. 2008a. Field Environmental Philosophy and Biocultural Conservation: The Omora Ethnobotanical Park Educational Program. *Environmental Ethics* 30: 325-336.

Rozzi, R., C. Anderson, C. Pizarro, F. Massardo, Y. Medina, A. Mansilla, J. Kennedy, et al. 2010b. Field environmental philosophy and biocultural conservation at the Omora Ethnobotanical Park: Methodological approaches to broaden the ways of integrating the social component ("S") in Long-Term Socio-Ecological Research (LTSER) Sites. *Revista Chilena de Historia Natural* 83: SM19-SM28 (27-68).

Steinbeck, J. & E.F. Ricketts. 1941. *Sea of Cortez: A Leisurely Journal of Travel and Research*. Viking Press. Chapters 4 and 21.

Sutherland, W.J. 2003. Parallel extinction risk and global distribution of languages and species. *Nature* 423: 276-279.

Vannote, R.L., G.W. Minshall, K.W. Cummins, J.R. Sedell & C.E. Cushing. 1980. The river continuum concept. *Canadian Journal Fisheries and Aquatic Sciences* 37: 130-137.

White, L., Jr. 1967. The historical roots of our ecological crisis. *Science* 155: 1203-1207.

Supplementary Textbooks

Contador, T.A. & J.H. Kennedy. 2014. Habitantes sumergidos bajo los ríos del Cabo de Hornos/Underwater inhabitants of the rivers of Cape Horn. Ediciones Universidad de Magallanes, Punta Arenas, Chile. 96 pp. ISBN: 978-956- 358-063-1

Jaramillo, A. 2003. Birds of Chile. Princeton University Press, Princeton.

Rozzi, R., L. Lewis, F. Massardo, Y. Medina, K. Moses, M. Méndez, L. Sancho, P. Vezzani, S. Russell & B. Goffinet. 2012a. *Ecotourism with a Hand-Lens at Omora Park*. It includes the documentary

"The Invisible Journey" by Jaime Sepúlveda, and photography by Adam Wilson. Ediciones Universidad de Magallanes, Punta Arenas, Chile. (190 pp.) ISBN 978-956-9160-00-4.

Supplementary Readings

Anderson, C.B., R. Rozzi, J.C. Torres-Mura, S.M. McGehee, M.F. Sherriffs, E. Schüttler & A.D. Rosemond. 2006. Exotic vertebrate fauna in the remote and pristine sub-Antarctic Cape Horn Archipelago, Chile. *Biodiversity and Conservation* 15: 3295-3313.

Bonnet, X., R. Shine & O. Lourdais. 2002. Taxinomic chauvinism. *Trends in Ecology and Evolution* 17:1- 3.

Contador, T.A., J. Kennedy & R. Rozzi. 2012. The conservation status of southern South American aquatic insects in the literature. *Biodiversity and Conservation* 21: 2095-2107.

Contador, T., J. Kennedy, J. Ojeda, P. Feinsinger & R. Rozzi. 2014. Ciclos de vida de insectos dulceacuícolas y cambio climático global en la ecorregión subantártica de Magallanes: investigaciones ecológicas a largo plazo en el Parque Etnobotánico Omora, Reserva de Biosfera Cabo de Hornos (55°S). *Bosque* 34: 429-437.

Contador, T.A.., Kennedy, J.H. (2016). The life histories of *Meridialaris chiloeensis* (Demoulin) (Ephemeroptera: Leptophlebiidae) and *Gigantodax rufescens* (Diptera: Simuliidae) on a Magallenic sub-Antarctic island (55oS). Aquatic Insects – An International Journal Freshwater Entomology. 37(2): 145-158

Crego, R.D., J.E. Jiménez & R. Rozzi. 2016. A synergic trio of invasive mammals? Facilitative interactions among beavers, muskrats, and mink at the southern end of the Americas. *Biological Invasions* 18:1923-1938. DOI 10.1007/s10530-016-1135-0

Darwin, C. 1838. *The Voyage of the Beagle*. Reprint, London: Everyman's Library, 1975.

Jiménez, J.E., R. Crego, G.E. Soto, I. Román, R. Rozzi & P.M. Vergara. 2014. Potential impact of the alien American mink (*Neovison vison*) on Magellanic woodpeckers (*Campephilus magellanicus*) in Navarino Island, southern Chile. *Biological Invasions* 16: 961-966.

Jiménez, J.E., A.E. Jahn, R. Rozzi & N.E. Seavy. 2016. First documented migration of individual White-crested Elaenias (*Elaenia albiceps chilensis*) in South America. *Wilson Journal of Ornithology* 128: 413-419.

Leopold, A. 1949. A Sand County Almanac and sketches here and there. Oxford University Press, New York.

McEwan, C., L.A. Borrero & A. Prieto (eds.). 1997. Excerpts from *Patagonia: Natural History, Prehistory and Ethnography at the Uttermost End of the Earth*, Princeton University Press.

Naess, A. 1973. The shallow and the deep, long-range ecology movements. *Inquiry* 16: 95-100.

Pyle, P., S.N. Howell, R.P. Yunick & D.F. DeSante. 1987. *Identification guide to North American Passerines*. Slate Creek Press, Bolinas, California.

Rozzi, R. & F. Massardo. 2011. The road to biocultural ethics. *Frontiers in Ecology* 9: 246-247.

Rozzi, R., F. Massardo, C. Anderson, K. Heidinger & J. Silander, Jr. 2006. Ten principles for biocultural conservation at the southern tip of the Americas: The Approach of the Omora Ethnobotanical Park. *Ecology & Society* 11(1): 43. [online] URL: http://www.ecologyandsociety.org/vol11/iss1/art43/

Rozzi, R., J.J. Armesto, B. Goffinet, W. Buck., F. Massardo, J. Silander, Jr., M.T.K. Arroyo, S. Russell, C.B. Anderson, L.A. Cavieres, & J.B. Callicott. 2008b. Changing lenses to assess biodiversity: patterns of species richness in sub-Antarctic plants and implications for global conservation. *Frontiers in Ecology* 6: 131-137.

Rozzi, R., J. Armesto, J. Gutierrez, C. Anderson, F. Massardo, G. Likens, A. Poole, K. Moses, E. Hargrove, A. Mansilla, J. Kennedy, M. Willson, K. Jax, C. Jones, J.B. Callicott & M. Arroyo. 2012b. Integrating ecology and environmental ethics: Earth stewardship in the southern end of the Americas. *BioScience* 62: 226-236.

Schüttler, E., R. Rozzi & K. Jax. 2011. Towards a societal discourse on invasive species management: A case study of public perceptions of mink and beavers in Cape Horn. *Journal for Nature Conservation* 19: 175-184.

Vuilleumier, F. 1985. Forest birds of Patagonia: Ecological geography, speciation, endemism and faunal history. *Ornithological Monographs* 36: 255-304.