CASA-Chile

SAMPLE SCIENCE COURSES

Students interested in enrolling at Pontificia Universidad Católica may find the following courses particularly interesting:

Native Flora (AGC2281)
Flora Nativa explores the main characteristics of Chile's native flora, its biology, taxonomic classification, geographical distribution and economic relevance. The class includes presentations in class, lab work, and field trips. This class is taught by Professor Gloria Montenegro, former president of the Botanical Society of Chile, currently president of the consultative group for a foundation which does research in science and technology of natural resources.

Conservation and Handling of Wild Fauna (AGZ2020)
Conservación y Manejo de la Fauna Salvaje prepares the students to develop critical criteria and become familiarized with the different practices for conservation, handling and/or wild fauna control in the silvoagropecuaries ecosystems. This class is taught by Professor Cristián Bonacic who holds a Ph.D. from Oxford University.

Forest Ecology: Biodiversity, History, and Dynamic of the Chilean Forestry
Ecología de Bosques: Biodiversidad, Historia y Dinámica de los Bosques Chilenos analyzes the history, flowering aspects, biological interactions, and the reproduction of the Chilean forests. This class is taught by Professor Juan Armesto, a well-known Chilean ecologist who holds a doctorate from Rutgers University.

Biogeography in Chile
Biogeografía de Chile focuses on the main ecosystems in Chile including the Andean Mountains, Atacama Desert, the Mediterranean area, the forest and tundras. This course normally meets for two weeks during the semester in the experimental station of "Senda Darwin Foundation" in Chiloé, which is a large island with a vast diversity of species, located in the south of Chile. It provides students hands-on experiences in ecological inquiry along with educators, forest service personnel, and indigenous (Huilliche) community members. This class is taught by Professors Juan Armesto, Director of CASEB, and Carolina Villagrán, a specialist in Paleontology and Biogeography.

Ecology of Organisms (BIO459F)
Ecología de Organismos analyzes and illustrates how animals and plants interact with natural habitats and how they adapt their physiological system to the environmental conditions. It also provides a new insight about physiological, behavioral, and evolutionary ecology. This class is taught by Francisco Bozinovic and Fabián Jaksic, both are well-known ecologists, who specialize in conservation issues.

Principles on Ecology and Environment (BIO143M)
Principios de Ecología y Medio Ambiente aims to provide students with the basic elements and principles of ecology, its main hypothesis, theories and paradigms. This class also gives a special

emphasis to a global approach to the Ecological Sciences, highlighting the basic concepts of Human Ecology. This class covers the problematic involving the impact on the environment caused by the intervention or presence of men in the ecosystem.

Ecology of Population (BIO461F)
Ecología de Poblaciones explores the growth and demography of population, analyzing the spatial patterns in Biology and discussing adaptation, natural selection, and genetics of population.

Students interested in enrolling at the Universidad de Chile (UCH) may find the following courses particularly interesting:

Biological Conservation
Conservación Biológica introduces the students to the conceptual bases of biology for conservation, including philosophy, theory and studies on conservation, and biodiversity with special emphasis on Latin America. Biological conservation is shown as a social and biological problem, where the multidisciplinary approach is critical.

Environmental Pollution
Contaminación Medioambiental studies the main environmental pollutants including the atmospheric, water (superficial and underground waters), ground contamination, and also the study of toxic and dangerous waste in Chile, especially in the mining and forest areas. It then explores the biological, chemical and physical strategies to treat environmental pollution.

Ecology (CEC-814)
Ecología help students understand the factor which explain the distribution and abundancy of biologic organisms across time and space, ranging from individual to community and ecosystem. It explores the ecology of individuals and research protocols, niche theory, and principles of energy assignment. The course also examines population ecology, growth, and population regulation. This class is taught by Professor Ramiro Bustamante.

Globalization, Mining Industry and Copper
Globalización, Industria Minera y Cobre examines in depth Chile's most important export industry, through exploring the economic cycles of globalization in the mining industry in Chile. The course examines the mineral, technological, and productive innovations of copper, and the activities of the private and public mining sector, as well as the tendencies of the global, Latin American, and Chilean economy and the possible future scenarios. This class involves leading mining specialists including Hugo Latorre, Sara Larraín, William Hayes, Juan Villarzú, Julián Alcayaga, Jorge Lavandero, Carlos Tomic, Orlando Caputo, and Felipe Portales.

Seismology (GF40B)
Sismología aims to provide students with methods of applied seismology and terrestrial and marine seismic. They work on digital seismic data acquisition, methods of refraction and reflection, basic interpretation, and elements of seismic migration and Terrestrial radar (GPR).

Volcanology (GL611)
Volcanología gives students information on the natural endogen forces and the expression of volcanic phenomena. Chile is within the “fire belt of the Pacific” and has an enormous amount of volcanoes from the north to the south and many of them are active. This class is taught by Professor Miguel Angel Parada Reyes, Ph.D. in Geology from Tohoku University in Japan, and a specialist in Petrology, Geology, and Geochemistry.