



# FROM VOLCANOES TO RAINFOREST: GEOLOGY & ECOLOGY IN SOUTHERN BRAZIL (EES 210: Field Investigations)

Malu Jorge & Guil Gualda, Earth & Environmental Sciences

**SCOPE:** We will study Earth and Environmental processes and systems in the field. In 2014, the course will be held in Brazil, a country globally known for its natural features, which will give us the opportunity to study a variety of topics in the Earth and Environmental Sciences; time will be evenly split between topics related to ecology and biodiversity in the Brazilian Atlantic rainforest and topics related to magmas and volcanic activity in the geological history of South America.

**ECOLOGY & CONSERVATION BIOLOGY:** The Brazilian Atlantic rainforest goes from North to South along the Brazilian coast. It encompasses more than 50,000 species of animals and plants, a biodiversity similar to that of the Amazon. It is also highly threatened as almost 90% of its area has been converted into crops and cities. In this part of the course, students will learn important aspects of Tropical ecology, biodiversity, conservation and management in direct contact with one of the most diverse and threatened rainforests of the world.

**PROGRAM:** The course will start in São Paulo on May 04 and finish in Florianópolis on May 30, 2014. We will be based in 3 main areas in Brazil over the length of the course, and the topical focus will change accordingly:

- RIO CLARO (Western São Paulo State): Students will split their time between the departments of Ecology and Geology of Universidade Estadual Paulista (UNESP), where they will visit research labs, attend guest lectures, and develop small research projects with Brazilian students.
- ILHA DO CARDOSO (Southern São Paulo State): We will stay at Ilha do Cardoso State Park, a Nature Reserve at the southern tip of São Paulo State that harbors 150 km<sup>2</sup> of protected and pristine rainforest, mangroves and sand beaches.
- SERRA GERAL (Santa Catarina and Rio Grande do Sul States): From the coast to the plateau of the Serra Geral, we will explore a sequence of volcanic rocks that record the transition from deserts to a site of major volcanism that culminated with the opening of the Atlantic Ocean.

**MAGMAS & VOLCANOES:** Rocks preserve the most extensive record of the evolution of the planet, from which we are able to retrace Earth's history over 4.5 billion years. We will study the processes that led to the assembly of South America ~600 million years ago and the opening of the South Atlantic ~140 million years ago, including volcanic activity that led to some of the largest supereruptions on Earth. We will explore how the topography today reflects processes that took place over time and the effects on human occupation and land use.

**EVALUATION:** Course evaluation will be based on participation, field exercises, short project reports, and oral presentations.

**REQUISITES:** Students with all levels of expertise in geology and biology are encouraged to apply. Activities will be adjusted to take into account prior experience and course-work. EES 210 has no formal prerequisites. **CREDITS:** 3 (MNS)

**EXPENSES:** Course fee includes tuition, lodging, transportation, occasional meals (depending on location), and entrance fees to National and State Parks. It does not include airfare from Nashville to São Paulo or from Florianópolis to Nashville, transportation from and to airports, regular meals in major cities, or incidental expenses.

**FINANCIAL SUPPORT:** For information on the Global Summer Fellowship Program, offering scholarships of up to \$8,500, consult GEO: [www.vanderbilt.edu/studyabroad](http://www.vanderbilt.edu/studyabroad).

**MORE INFORMATION:** <http://tinyurl.com/ees210>  
Malu Jorge ([malu.jorge@vanderbilt.edu](mailto:malu.jorge@vanderbilt.edu))  
Guil Gualda ([g.gualda@vanderbilt.edu](mailto:g.gualda@vanderbilt.edu))

**TO APPLY:** [www.vanderbilt.edu/summersessions/study\\_abroad.php](http://www.vanderbilt.edu/summersessions/study_abroad.php)

