

CARLETON COLLEGE GEOLOGY SEMINAR IN NEW ZEALAND

Winter 2012

PROGRAM DATES

The Program will take place during winter term of 2012 and will roughly correspond to the Carleton term.

FACULTY DIRECTORS

Mary Savina, Professor of Geology

Mary teaches courses in geomorphology, hydrology, geology of soils, and environmental geology at Carleton. She taught geology in New Zealand for three years in the late 1980s.

Sarah Titus, Assistant Professor of Geology

Sarah teaches courses in tectonics and structural geology at Carleton. She is a field geologist whose research is focused on understanding deformation along major strike-slip faults including the San Andreas fault in California and a fossil fault in New Caledonia (which is near New Zealand).

INTRODUCTION

New Zealand is an amazing place to study Geology. Plate tectonic processes are active and happen in real time. New Zealand also has a rich Gondwanan heritage. This program will travel throughout the North and South Islands, and visit a range of settings from mountains and glaciers, to terraced coastal plains and adjacent shoreline and shallow marine environments. We will stay and work out of rustic field stations and hostels. The academic program will largely be centered on directed learning modules and fieldwork; teamwork will be emphasized. Visits to cultural sites and interactions with New Zealand scientists will be important aspects of our studies.

ELIGIBILITY

Pre-requisites: Any 100 level and a minimum of one 200-level geology course.

Applicants should have a strong desire to explore a new country and to understand many different aspects of its geologic history. The program seeks students with the ability to get along well with classmates while living and working closely together in an intense environment of learning geology, including experiencing the (dis)comforts of outdoor fieldwork under a wide range of climatic conditions. Applicants should be prepared for long field days, evening data compilations and discussions, vigorous hiking, shipboard work, and rain.

COURSE OF STUDY, 18 CREDITS

GEOLOGY 285: GEOLOGY OF THE NORTH ISLAND (6 Credits)

In this course, the students will study modern and ancient geologic systems in the North Island with a view to understanding the volcanic, sedimentary and geomorphologic history of New Zealand. The course may include projects and visits to sites such as volcanic systems-hot springs, modern marine-estuarine settings, and terraced fluvial-alluvial systems, among others.

Instructor: Mary Savina

GEOLOGY 286: TOPICS IN NORTH ISLAND GEOLOGY (3 Credits) S/CR/NC

This course is tied to the half of the program focusing on the Geology of the North Island. Readings and discussion will focus on a) risk and mitigation of flood, landslide, volcanic and

seismic hazards in New Zealand b) connections between the Gondwanan geologic heritage of New Zealand and its natural ecosystems and c) present environmental geology issues in New Zealand.

Instructor: Mary Savina

GEOLOGY 287: GEOLOGY OF THE SOUTH ISLAND (6 Credits)

In this course, students will study the tectonic evolution of the South Island. Participants will work in small teams to hone their field observation skills, make structural measurements, and develop their mapping skills in several field sites across the South Island. Visits to additional field sites such as glaciers, fjords, slivers of the mantle, and the Alpine fault are possible.

Instructor: Sarah Titus

GEOLOGY 288: TOPICS IN SOUTH ISLAND GEOLOGY (3 Credits) S/CR/NC

This course is tied to the half of the program focusing on the Geology of the South Island. Readings, exercises, and discussions will focus on the large-scale plate tectonic processes that resulted in the development and assembly of New Zealand.

Instructor: Sarah Titus

LOCATION AND LODGING

The 2012 Geology seminar will use various sites across both the North and South Islands. Accommodation will range from rustic field stations to urban youth hostels. In some places we will cook as a group, and others may be catered. Travel days may include an allowance to be spent on finding students' own meals.

EXPENSES

The cost of instruction, room, board, all program events, and group transportation will be covered by the 2011-12 comprehensive fee. All major scientific equipment and supplies are provided. Students are responsible for the cost of round-trip transportation from the U.S. to New Zealand, and any personal travel during the midterm break within New Zealand. Participants are also responsible for purchase of books, personal items, independent travel during the mid-term break, and some personal field gear and clothing.

INFORMATION MEETINGS

There will be two information meetings:

- Thursday October 28, 2010 7pm, Mudd 73
- Thursday February 10, 2011 7pm, Mudd 73

APPLICATIONS

Application forms are available from the Office of Off-Campus Studies, Leighton 119 as well as its website: go.carleton.edu/ocs.

Applications are due to Ellen Haberoth Mudd 161, by Thursday April 14, 2011.

WINTER 2012

CARLETON COLLEGE
GEOLOGY IN
NEW ZEALAND

Faculty Directors:
Mary Savina & Sarah Titus