

COURSE CONTENT

Date : 29 Apr 2014

Academic Year : 2014/2015

Study Year (if applicable) : 1

Course Code & Title : ES1006 Introductory Field Experience

Academic Unit : 4 AU

Pre-requisite : ES1001, ES1005

Course Description :

ES1006 Earth System Science Field Studies

[Lectures: 39 hours; Fieldwork: 39 hours; Pre-requisites: ES1001, ES1005; Academic Unit: 4.0]

Learning Objective

The main objective of this course is to introduce students to the techniques, strategies, and benefits of conducting field research in the earth systems science discipline. Students will apply classroom knowledge and problem solving skills to real world examples in the field.

Content

This course provides an introduction to conducting scientific research in the field.

Lecture Outlines					
Day	Topic	Readings	Assignments	Lecture	Fieldwork
1	Introduction to the Geology of Batur	Compton, Ch. 1-2	Identify Key Features of Batur Caldera; Earthquake Classification	3	3
	Batur Volcano Museum				
	Batur Volcano Observatory				
2	Volcanic Structures	Compton, Ch. 13	Identify Geologic Structures	3	3
	Volcano Geochemistry				
	Volcanic Hazards				
3	Maps: Political, Topographic, and Geologic	Compton, Ch. 4.1,4.4,4.5; Compton, Ch. 6.16.4	Field & Map Orientation; Stratigraphic Sections	3	3
	Volcanic Rock Identification				
4	Geologic Mapping		Field Mapping	3	3

5	Review of Batur Caldera		Oral Presentation	3	3
6	Introduction: Culture and History of Rice Production in Bali		Report – Geography and Seasonality of Rice Cultivation	3	3
7	Irrigation Hydrology		Stream Flow Measurements	3	3
8	Water Chemistry		Collect and Test Water Samples	3	3
9	Comparative Agriculture		Descriptions of Rice Varieties, Pests, and Fertilizers	3	3
10	Review of Rice Ecology		Oral Presentation	3	3
11	Coastal Ecology & Geology Coastal Geology		Cross Section: Batur to the Coast	3	3
12	Marine Flora and Fauna		Plant and Animal Identification	3	3
	Water Pollutants				
13	Review of Bali Earth System		Oral Presentation	3	3

Learning Outcome

At the end of the course, students will be able to safely travel and work in a remote environment, plan and execute field experiments, and interact with foreign colleagues.

Student Assessment

Students will be assessed by:

Participation (20%)

Field Notes (20%)

Final Geologic Field Map & Presentation (30%)

Final Hydrology Report & Presentation (30%)

Participation is group discussions, field exercises, and group work.