

## **COURSE SYLLABUS FORM**

**American University of Beirut  
Faculty of Arts and Sciences  
Department of Geology**

### **Geol 201: Physical Geology**

#### **1. Course Learning outcomes**

This course is designed to provide the basic principles, and fundamental concepts of the various aspects of geological sciences. Emphasis will be on the internal structure of the Earth, properties of minerals, mineral groups, formation and behavior of earth materials, description, classification, and mode of formation of the igneous, sedimentary, and metamorphic rock groups, surface processes, geological structures, earthquakes, and plate tectonics. A one-day field trip (held usually on a Saturday) is an important part of this course and bears 20% of its final grade. Students are expected to learn major principles and basic concepts of volcanism, metamorphism, sedimentation processes and rock formations, weathering and formation of soil, the geologic time scale, tectonic movements and basic geological structures, as well as the main geologic work done by streams, groundwater, wind and glaciers. Students are also expected to learn how to interpret basic geological data, as well as the interpretation of sequence of geological events.

#### **2. Resources Available to Students**

1. Understanding Earth, by Press & Siever (1998): is the required textbook.
2. The dynamic Earth (Second edition), by Skinner & Porter (1992)
3. Earth, by Press & Siever (1986)
4. Physical Geology, by Plummer & McGary (1992)
5. Earth: Then and Now, by Montgomery & Dathe (1991)
6. Physical Geology, by Montgomery (1993)

#### **3. Grading Criteria**

Field trip and assignments	15%
Mid-term test	30%
Term project	5%
Final Exam	50%

#### **4. Schedule**

Week	Topic	Activities
1	Introduction, text, bibliography, terminology	
2	The structure and composition of the Earth	
3	Matter and Minerals; Physical properties and mineral identification, structure of minerals, mineral groups	
4	Volcanoes and magmas	
5	Igneous rocks; composition and classification	
6	Weathering and formation of soil. Description and classification of sedimentary rocks	
7	Metamorphism and metamorphic rocks	
8	Geologic time, stratigraphy and correlation	
9	Landslides and mass wasting	
10	Deformation of rocks (Geological structures: Folds, Faults and joints).	
11	Geological work of streams. Drainage systems	
12	Geology of Groundwater	
13	Geological work of Glaciers	
14	Wind action and formation of deserts	
15	Tectonic activities (seismicity and earthquakes)	
16	Plate tectonics	

#### **5. Course Policy**

- (i) Any student who misses more than one-fifth of the class sessions will be required to withdraw from the course.
- (ii) There will be no make up exams for any student who misses a mid-term or a final exam without obtaining the instructor's permission, which may be granted only in most exceptional circumstances, before (not after) the exam.