

## COURSE SYLLABUS

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

### Geol 224: Regional Geology

#### 1. Course Learning Outcomes

This course introduces the global tectonics and particularly the internal structure of the earth and gives more detailed discussion of the geology of the Arabian plate and its boundaries with adjacent plates. Students taking this course should participate in one-day field trip to the southeastern part of Lebanon where four main fault branches of the Dead Sea transform fault system will be visited. During the semester, students taking this course will submit and present a term paper on one of the major features (mostly tectonic) of the Arabian plate. At the end of the semester, the students should have a comprehensive understanding of the tectonics, structural geology, stratigraphy and geomorphology of the Arabian plate region.

#### 2. Resources Available to Students

The textbook is: The Middle East: Regional Geology and Petroleum Resources 1988, by Beydoun, Z.R., Scientific Press.

Other resources: Arabian Plate Hydrocarbon Geology and Potential - A Plate, Tectonic Approach 1991, by Beydoun, Z.R., AAPG Studies in Geology #33; Global Tectonics 1990, by Kearey, P., and Vine, F.J., Blackwell Scientific Publications; and Published scientific papers on the geology of different parts of the Arabian region (mostly for presentations and term papers).

#### 3. Grading Criteria

Term paper and presentation (35%);  
Field-trip report (10%);

Mid-term (25%);  
Final exam (30%)

#### 4. Schedule

Week	Topic	Activities	Assignments
1	Global tectonics (GT) – Internal structure of the earth	Lecturing	presentations
2	Continental drift (GT)	Lecturing	
3	Sea floor spreading (GT)	Lecturing	
4	Introduction to the geology of the region	Lecturing	
5	Precambrian-Infracambrian: outcrop distribution . . .	Lecturing	
6	Paleozoic: overview and stratigraphic units	Lecturing	
7	Paleozoic: paleogeography and paleoclimate	Lecturing	
8	<b>Midterm test</b>		
9	Mesozoic: overview and structural features	Lecturing	
10	Mesozoic: stratigraphic units	Lecturing	
11	Terminal cretaceous tectonic events	Lecturing	
12	Cenozoic: overview and stratigraphic units	Lecturing	
13			
14	The opening of the Gulf of Aden and Red Sea	Lecturing	
15	Evolution & development of the Levant (Dead Sea) fracture	Lecturing	