

# **COURSE SYLLABUS FORM**

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

## **GEOL 205: Earth and Energy Resources**

### **1. Course Learning Outcomes**

This course aims at introducing geological processes responsible for the origin, abundance and geographical distribution of Earth's resources. It will also disclose the relation ship that exists between the availability and utilization of resources. The students will get to understand this relation ship and value the significance of proper use of resources. Case studies will be a major supporting aid in this regard. Accordingly, they will be able to infer major outcomes of the shortages that may result from the exhaustion of the available non-renewable resources. An informative view of video tapes, statistical data and diagrams will help them better analyze the impact of consumption rate of resources on sustainability of human and societal development. By the end of the course, students will get to know how resources' origin and processing impart itself in their everyday use of common commodities.

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

Textbook: Craig, JR; Vaughan, DJ and Skinner, BJ, 2001. Resources of the Earth: Origin, Use and Environmental Impact, 2001 (3<sup>rd</sup> ed.), Prentice Hall.

Other resources:

- Scientific and political magazines such as National Geographic, Time, Newsweek ....etc.
- Internet: Web sites listed at the end of each chapter of the course textbook.

### **3. Grading Criteria**

- Term Exams                    50%
- Class contribution        5%
- Final Exam                    45%

#### 4. Schedule

Week	Topic	Activity	Assignment
1	Network of coexistence: social development, minerals and energy resources		
2	Classification of minerals and energy resources		
3	Global distribution of water: surface and under ground		
4	Hydrologic cycle and surface run off		
5	Ground water reservoirs, water consumption and constraints		
6	Traditional energy resources: origin of coal, distribution and reserves		
7	Petroleum and natural gas: origin of, distribution and reserves		Quiz I
8	Alternative energy resources: solar, nuclear, wind and geothermal	*	
9	Abundant metals: properties of and geologic occurrence		
10	Abundant metals: mining, processing, products and use		
11	Scarce metals: geologic occurrence and classification		
12	Scarce metals: distribution, reserves and production		Quiz II
13	Principal fertilizers; nitrogen, phosphorous and potassium		
14	Chemical minerals: halite, soda ash, boron and fluorine		
15	Building materials and aggregates: abundance, exploitation and marketing		

\* A field trip is usually planned on the Saturday of the eighth week of the semester.

#### 5. Course Policy

1. Students who miss more than 20% of class attendance will be required to drop the course.
2. No make up quizzes or exam without the instructor's permission. Exceptional circumstances will be decided upon before due date.
3. Three delays after 10 minutes class attendance will be considered as one absence.