

**Al al-Bayt University**  
**Institute of Earth and Environmental Sciences**  
**Applied Geology and Environmental Sciences Department**  
**Course Syllabus**

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**Course Title:** General Geology (1)  
**Course Number:** 0801106  
**Term:** Second semester 2019/2020  
**Class Meeting Days:** Sunday, Tuesday  
and Thursday

**Instructor:** Dr. Ibraheem Hamdan  
**Credit hours:** 3 h (3 lectures)  
**Class Meeting Hours:** 10-11.00/4.ج.ع  
**Email:** ibraheem.hamdan@aabu.edu.jo

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**Course Aims and Objectives:**

Course aim to provide the student with an understanding of geology. The topics covered in this course will allow the students to better understanding of the major Earth's phenomena. During this course, students will study earth materials (minerals and rocks), changes on the surface and in the interior earth, and the dynamic forces that cause them to change. In addition, course will help to understand how the individual components of the Earth (water, land, air, and life forms) are interconnected within the earth system.

**Course Outlines:**

- **An introduction to geology:** the science of geology (definition), people influence on earth and environment, earth's spheres, earth as a system, early evolution of earth, earth's internal structure, etc.
- **Matter and minerals:** atoms as a building blocks of minerals, minerals as a building blocks of rocks, physical properties of minerals, mineral groups (silicate and non-silicate), mineral resources, etc.
- **Rocks:** rock cycle, igneous rocks, igneous textures, classification of igneous rocks, sedimentary rocks, classification and texture of sedimentary rocks, metamorphism and metamorphic rocks; classification and textures, etc.
- **Plate tectonics: a scientific revolution unfolds:** from continental drift to plate tectonics, divergent plate boundaries, convergent boundaries, transform plate boundaries, etc.
- **Earthquakes and Earth's Interior:** What is an earthquake, seismology (study of earthquakes waves), earthquakes intensity, locating the source of an earthquake, etc.
- **Crustal deformation and mountain building:** crustal deformation, structures formed by ductile deformation (folds) and by brittle deformation (faults), mountain building, etc.
- **Intrusive activity and volcanoes:** The nature of volcanic eruptions, volcanic structures and eruptive styles (material extruded during eruption), volcanic landforms and shapes, volcanic hazards, etc.
- **Geologic time:** relative dating, dating with radioactivity, correlation of rock layers, the geologic time scale, etc

**Text Book:**

The recommended textbook for this course is Essentials of Geology (11<sup>th</sup>) Edition, by Lutgens, F and Tarbuck, E. You are welcome to use an older edition.

**Grading Policy:**

Determination of the final grade for this course will be based upon the following:

First exam 25%

Second exam 25%

Final 50%

Quizzes and other activities are available during the course.