



Course Specification

Diploma

Course Title: General Geology

Course Code: APMQ1201

Program: Mining and Quarrying

Department: Diploma Department

College: The Applied College

Institution: Umm Al-Qura University

Version: 1

Last Revision Date: 20 February 2025

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A. General information about the course:

1. Course Identification

1. Credit hours: (.....)

2 hours

2. Course type

- A. ☐ University ☐ College ☒ Department ☐ Track ☐ Others
- B. ☒ Required ☐ Elective

3. Level/year at which this course is offered: (1 St. Level)

4. Course General Description:

1. Course Description

Introduction to the study of the Earth Science and its branches – Theories on the origin of the Universe, the Solar System and the Earth – The atmosphere, the hydrosphere, the lithosphere and the Earth's interior – The Earth's crust – Plate tectonic and the origin of mountains and oceans – Geologic processes shaping the Earth's surface: External processes; Weathering (physical and chemical), wind action and sand dunes, running water (rainfall, rivers and deltas), groundwater and its geologic action, waves and current actions in coastal areas, glacial erosion – Tectonic movements and the internal processes – Structures – Earthquake belts, intensity of earthquake – Volcanicity. Laboratory studies of topographic and geologic maps.

5. Pre-requirements for this course (if any):

None (This is a first-level course)

6. Co-requisites for this course (if any):

None

7. Course Main Objective(s):

1. Understand the Structure and Composition of the Earth

- Learn about the Earth's internal layers (crust, mantle, core) and their properties.
- Identify different types of rocks (igneous, sedimentary, metamorphic) and minerals.

2. Identify and Classify Rocks and Minerals

- Develop the ability to recognize and describe common rocks and minerals based on physical properties.
- Understand how different rocks form and transform through the rock cycle.

3. Explore Geological Processes

- Understand internal processes such as volcanism, earthquakes, and plate tectonics.
- Examine surface processes like weathering, erosion, sedimentation, and soil formation.





4. Introduce Geologic Time and Earth's History

- Gain a basic understanding of geologic time scales, dating methods, and the history of life on Earth.
- Learn how fossils and stratigraphy are used to interpret Earth's past.

5. Understand Geological Mapping and Fieldwork Basics

- Learn basic skills in reading and interpreting geological maps and cross-sections.
- Introduction to tools and techniques used in geological field investigations.

6. Examine the Relationship Between Geology and the Environment

- Understand the role of geology in natural resources (minerals, groundwater, fossil fuels).
- Explore natural hazards (earthquakes, landslides, volcanoes) and their impact on society.

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	30	100%
2	E-learning		
3	Hybrid <ul style="list-style-type: none"> • Traditional classroom • E-learning 		
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	30
2.	Laboratory/Studio	
3.	Field	
4.	Tutorial	
5.	Others (specify)	
Total		30



B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

1.0	Knowledge and understanding			
1.1	Learn about the Earth's internal layers (crust, mantle, core) and their properties. Identify different types of rocks (igneous, sedimentary, metamorphic) and minerals.	K1	Lectures and Interactive Discussions	Written Exams (Mid-Term and Final Exams), Quizzes.
1.2	Develop the ability to recognize and describe common rocks and minerals based on physical properties.	K3	Lectures and Interactive Discussions	Written Exams (Mid-Term and Final Exams), Quizzes.
1.3	Understand internal processes such as volcanism, earthquakes, and plate tectonics. Examine surface processes like weathering, erosion, sedimentation, and soil formation.	K2	Lectures and Interactive Discussions	Written Exams (Mid-Term and Final Exams), Quizzes.
2.0	Skills			
2.1	Gain a basic understanding of geologic time scales, dating methods, and the history of life on Earth.	S1	Interactive Discussions	Written Exams (Mid-Term and Final Exams), Quizzes
2.2	Learn basic skills in reading and interpreting geological maps and cross-sections.	S3	Interactive Discussions	Written Exams (Mid-Term and Final Exams), Quizzes
3.2	Explore natural hazards (earthquakes, landslides, volcanoes) and their impact on society.	S4	Interactive Discussions	Written Exams (Mid-Term and Final Exams),
3.0	Values, autonomy, and responsibility			
3.1	Work cooperatively in a small group environment	V1	Individual and Group Presentations	Presentations

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to the study of the Earth Science and its branches	2
2.	Theories on the origin of the Universe, the Solar System and the Earth	2





3.	The atmosphere, the hydrosphere, the lithosphere and the Earth's interior	2
4.	The Earth's crust	2
5.	Plate tectonic and the origin of mountains and oceans	2
6.	The Solar System and the Earth	2
7.	Geological processes shaping the Earth's surface	2
8.	groundwater and its geologic action	2
9.	waves and current actions in coastal areas, glacial erosion	2
10.	Tectonic movements and the internal processes	2
11.	Tectonic movements and the internal processes	2
12.	Structures	2
13.	Earthquake belts, intensity of earthquake	2
14.	Earthquake belts, intensity of earthquake	2
15.	Volcanicity	2
Total		30

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Quizzes	5	10
2.	Mid-Term Exam	8	20
3.	Presentations	12	10
4.	Homework	All weeks	10
5.	Final Exam	16	50

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	John Grotzinger, Thomas H. Jordan. Understanding Earth. Edward J. Tarbuck, Frederick K. Lutgens, Dennis G. Tasa. Earth: An Introduction to Physical Geology.
Supportive References	
Electronic Materials	USGS (United States Geological Survey): https://www.usgs.gov Free and authoritative source for geological data, maps, and articles. One Geology – http://www.onegeology.org



	A global initiative to provide dynamic geological maps from around the world.
Other Learning Materials	

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Classrooms
Technology equipment (projector, smart board, software)	Data show
Other equipment (depending on the nature of the specialty)	

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Faculty	Direct (project, HW, Quiz, midterm and final exam)
Effectiveness of Students assessment	Students	Indirect (Student Survey)
Quality of learning resources	Program Coordinator	Direct analysis
The extent to which CLOs have been achieved	Program Coordinator	Direct analysis
Other		

Assessors (Students, Faculty, Program Leaders, Peer Reviewers, Others (specify))

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	Umm Al-Qura University Council
REFERENCE NO.	851110214476/195605
DATE	18/2/1447

