

Course description template

Course Name .1	
Engineering Geology	
Course Code .2	
CIV026	
Term/Year .3	
/ Chapter Two2026	
Date this description was prepared .4	
8/8/2026	
Available forms of attendance .5	
My presence only	
Total number of study hours / Total number of units .6	
:Number of study hours100 :(total course load for the semester) / Number of units4 (European System units)	
Name of the course coordinator (if there is more than one, please mention it) .7	
Name: Azhar Ibrahim Karim Name: Abdullah Nasser Jawad :Emailabdullan97@uowa.edu.iq	
Course Objectives .8	
Developing a useful link between geology and civil engineering • structures in the context of site investigations and project requirements Understanding the behavior of different geological materials, such as .rocks and soil Identifying the occurrence, types, importance, and rules of • groundwater in the context of civil engineering Basic geological investigations required for megastructures, for • example, dams Understanding the basics of maps and drawing cross-sections of • various subsurface settings Understanding the fundamentals of geophysical techniques and • geophysical site investigations	Study objectives
Teaching and Learning Strategy .9	

The main strategy to be followed in delivering this unit is to refine and expand students' knowledge and critical thinking skills. This will be achieved through lessons, discussions, interactive sessions, and by examining real-world scenarios involving examples of civil engineering projects around the world that are of interest to students, such as Palm Jumeirah in Dubai	strategy
Course Structure .10	

Evaluation Method	Learning method	Unit or topic name	Required learning outcomes	Hours	Week
Classroom participation and discussion	a lecture	Introduction to engineering geology and its importance for civil engineers	Understanding how engineering geology works with different civil engineering disciplines	4	1
Duty (1)	a lecture	Types of rocks	Listing the different types of rocks and their composition	4	2
Classroom participation and discussion	a lecture	Introduction to soil and soil types	Listing the different types of soil and their composition	4	3
Classroom participation and discussion	a lecture	groundwater	Representing groundwater types and rules in civil engineering projects	4	4
Short test (1)	a lecture	Geological investigations of tunnels	Summary of what is meant by geological investigations of tunnels as giant structures	4	5
Classroom participation and discussion	a lecture	Geological investigations of dams and reservoirs	Summary of what is meant by geological investigations of dams as giant structures	4	6
Midterm exam	a lecture	Rock Mechanics 1	Determining the importance of the physical properties of rocks on rock behavior	4	7
Classroom participation and discussion	a lecture	Rock Mechanics 2	Determining the importance of rock mechanical properties on rock behavior	4	8
Classroom participation and discussion	a lecture	earthquakes	Explaining the types of seismic waves and how earthquake events can affect civil engineering projects	4	9
Short test (2)	a lecture	Stability of rock slopes	Identifying different types of rock slope failure	4	10
Classroom participation and discussion	a lecture	Maps 1 (Contour maps and geological maps)	Describe changes in terrain using contour maps and contour mapping	4	11
Duty (2)	a lecture	Maps 2 (Cross-sections of horizontal and oblique layers	Describe the orientations of the Earth's interior (i.e., horizontal layers) using two-dimensional sections	4	12
Report	a lecture	Geophysics 1 (Introduction to Geophysics)	Understanding the principles of geophysics, data collection, and their importance for indirect geophysical investigations of sites	4	13
Classroom participation and discussion	a lecture	Geophysics 2 (Earthquake Method)	Explaining the types and techniques of seismic surveys, their advantages and limitations, and identifying the geotechnical parameters that can be determined using seismic methods	4	14
Classroom participation and discussion	a lecture	Geophysics 3 (Electrical Resistance Method)	Explanation of the fundamentals of electrical resistance and its applications for site investigations	4	15
Final exam	a lecture	Preparation week before the final exam	A comprehensive review of all learning outcomes	4	16

Course Evaluation .11

(Short quizzes = 10%)
 (Assignments = 10%)
 (Projects/Laboratory = 10%)
 (Reports = 10%)
 (Midterm exam = 10%)
 (Final exam = 50%)

Learning and teaching resources .12

1. Engineering Geology, University of Basrah, 2001.	Main references (sources)
2. Practical Engineering Geology, Steve Hencher, Spon Press.	Supporting (recommended) references
3. An Introduction to Applied and Environmental Geophysics, John M. Reynolds, Wiley-Blackwell.	


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