Republic of Iraq

Ministry of Higher Education and Scientific Research Supervision and Scientific Evaluation Apparatus



College: Shatt Al-Arab University College

Department: Civil Engineering

Stage: 1st stage

Lecturer name: Dr. Ihsan Q. Mohammed

Academic title: Assistant Professor

Course Weekly Outline

Name	Ihsan Qasim Mohammed Al-abboodi				
E-mail address	IhsanQasim@sa-uc.edu.iq				
Course name	Engineering Geology				
Course objective	The course aims to provide basic information about the components of the earth's crust, types of rocks, forms of geological structures, factors and forces that affect the earth's crust, earthquakes, volcanoes, the natural properties of soil and subsurface water geology as an introduction to studying the geology of tunnels, dams and reservoirs sites, and the use of geological maps and geological survey.				
Course description	 Introducing the concept of engineering geology and its importance in knowing the origin, history and formation of the sphere Earth and the forces acting on its rocks. Determining the environmental problems resulting from geological phenomena, their causes, and ways to reduce their effects. Describe engineering methods for analyzing and designing systems that help solve foundation geological problems. Clarify the sources of groundwater and their relationship to surface water and how to avoid its risks during implementation Engineering Works. Explain the methods of drawing topographic sections and knowing the thickness of the layers of the earth's surface. A6-Determining the required investigation methods for the locations of important buildings and facilities and the type of geological phenomena influential. 				
References	1. Principle of Engineering Geology & Practices, Al-Tai Majid Aboud Jassim				
External sources	Engineering Geology and Geological Maps book by Ibrahim Ali Abido				
Course assessment	Lab.	Quizzes and assessment	Mid-term exam	Final exam	
	10	15	20	55	
General notes					

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Evaluation Apparatus

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Week No.	Theoretical	Experimental	Aims
1	Definition of geology Earth Structure	Types of rocks	and ways logical ss
2	Mineral groups	Types of rocks	ry and risk and and ion na
3	Physical properties of minerals	Types of rocks	histo, histo ation ation ations stigation stigations ationes ations at a stigation at a stignificant at a stigation at a stigation at a stigation at a stiga
4	Physical and engineering properties of rocks	Types of rocks	he origin their cau ve found w to avc aphic sec ired inve
5	Rock cycle geological structures	Types of rocks	wing the mena, and ho opogree reque
6	Earthquakes Volcanoes	How to recognise rocks	n knov shenoi shat he wing t ing th
7	Geological origin and properties of soil and rivers	How to recognise rocks	ortance in plogical properties of draw of draw Determinand the ty
8	Transport and sedimentation in rivers	How to recognise rocks	its imposite rocks. Its imposite rocks. Its signing signing to be methodoe. A6- I cilities a cilities a
9	The origin and sources of subsurface water	How to recognise rocks	ology and its cting on its esulting fro g and desig ir relationsk xplain the mh's surface. gs and facil
10	subsurface water movement Artesian wells	How to recognise rocks	concept of engineering geology and its importance in knowing the origin, history and the Earth and the forces acting on its rocks. environmental problems resulting from geological phenomena, their causes, and ways ts. zing methods for analyzing and designing systems that help solve foundation geologic es of groundwater and their relationship to surface water and how to avoid its risks ion Engineering Works. Explain the methods of drawing topographic sections and ss of the layers of the earth's surface. A6- Determining the required investigation tions of important buildings and facilities and the type of geological phenomena
11	topographic maps	How to recognise rocks	igine d the tal prital price livate ling Vers o ortar
12	contour lines	Hardness test for rocks	of er th an men sthoc ound ineer e lay
13	Topographic Profile & vertical section	Hardness test for rocks	ncept e Earr nviron . ng me s of gr n Eng s of th
14	Geological and geotechnical investigations of engineering building sites	Permeability test for soil	cing the cof the sphuning the heir effectoe engined the sourconthe sourconthe thickness the location.
15	Engineering geology and foundation problems	Permeability test for soil	1 - Introdu formation 2 - Determ to reduce t 3 - Describ problems. 4 - Clarify during impknowing the methods fo influential.