The Hashemite University
Faculty of Engineering
Civil Engineering Program
Course Syllabus

Course Title:	**Engineering Geology 3 (2,3,3)**	**Course Number:**	**110401436**
Designation:	Compulsory	**Prerequisite(s):**	110401336
Instructor:	Eng. Hussien aldeeky	**Instructor's e-mail::-**	aldeeky@hu.edu.jo
Office Hour	As shown on office door		

Course Description (catalog): Earth material, rock minerals and their characteristics, rock types and classification, rock cycle, engineering properties of rocks, weathering and weathered rocks, geologic structures, site investigation, mass movement and rock slopes, earthquakes, surface and underground water, Topographic and geological maps..

Lab.: minerals Identification, rocks Identification, site investigation, abrasion of rock, rock deformation, strength, slack durability, RQD, topographic maps . earthquake

Textbook(s) and/or Other Supplementary Materials: Waltham T, Foundations of Engineering Geology, 3rd Edition, Taylor & Francis, 2009

Ref. Principles of Engineering Geology, by: Rebert B e… , John Wiley & Sons

Major Topics Covered:

Topics	# Weeks	Contact hours*	Lab/ week	Lab Experiments
29. Introduction of Engineering Geology - Geology Vs. Engineering Geology - Civil Engineering and Engineering Geology	1/2	1		
30. Structure and composition of earth	1/2	1	1	Introduction
31. Minerals (composition, characteristics, groups)	1	2	1	Mineral properties & identification
32. Rocks cycle, and the three rock families (Igneous, Sedimentary and Metamorphic Rocks)	3	6	3	- Igneous rock identification (ID) - Sedimentary rock ID - Metamorphic rock ID
33. Engineering Properties of rocks	2 1/2	5	3	- Slake Durability - Detection of rocks strength by simple means - Strength of rocks (point load test)
34. Mass movements and slope processes	1 1/2	3	1	- Angle of Repose
35. Site investigation	1 1/2	3	1	- RQD
36. Structural features (folds, Joints, Faults, ….)	1 1/2	3		
37. Earthquake	1	2	1	- earthquake
38. Topographic and geological maps	1	2		
Total	**14**	**28**	**11**	

*Contact hours include lectures, quizzes and exams

Specific Outcomes of Instruction (Course Learning Outcomes):

:After completing the course, the student will be able to:

CLO1: Acquire the knowledge of the most important rocks and minerals (a,)

CLO2: Understand the relationship between rocks and engineering and understand weathering as they influence civil engineering works (a, b, e)

CLO3: Understand mass movement as they influence civil engineering works (a, e,)

CLO4: Understand the seismic wave and earthquake. (a, e,)

CLO5: The work in the lab allow the students to work in teams and communicate effectively. (a, e, g).

Student Outcomes (SO) Addressed by the Course:

#	Outcome Description	Contribution
	General Engineering Student Outcomes	
(a)	an ability to apply knowledge of mathematics, science, and engineering	50%

(b)	an ability to design and conduct experiments, as well as to analyze and interpret data	10%
(c)	an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability	
(d)	an ability to function on multidisciplinary teams	
(e)	an ability to identify, formulate, and solve engineering problems	10%
(f)	an understanding of professional and ethical responsibility	
(g)	an ability to communicate effectively	30%
(h)	the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context	
(i)	a recognition of the need for, and an ability to engage in life-long learning	
(j)	a knowledge of contemporary issues	
(k)	an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.	

Grading Plan:

1st Exam	20 Points	**Thursday 8/3/2018**
2nd Exam	20 Points	**Thursday 5/04/2018**
Lab.	20 Points	
Final exam	40 Points	

General Notes: Lab sheets should be **submitted on high quality A4 paper** with **neat sketches**. Neatness will count and messy unorganized problems will reduce credit. ***NO Make up Exams***

Prepared by: *Eng. Hussien Aldeeky* **Date:** 29rd Feb. 2018