جامعة المجمعة
Majmaah University

Course Specifications

Muharram 1437 H

Institution:	Majmaah University
Academic Department :	Civil and Environmental Engineering
Programme :	Civil Engineering
Course :	Engineering Geology
Course Coordinator :	Dr. Yahya Al-Jahmany
Programme Coordinator :	Dr. Sameh S Ahmed
Course Specification Approved Date :	10 / 5 / 1437 H

This form compatible with NCAAA 2013 Edition

A. Course Identification and General Information

1 - Course title : Engineering Geology		Course Code: CE 101	
2. Credit hours : 2 (2,1,0)			
3 - Program(s) in which the course is offered: Civil Engineering			
4 – Course Language : English			
5 - Name of faculty member responsible for the course: Dr. Yahya Al-Jahmany			
6 - Level/year at which this course is offered : Level 4/ Year 1			
7 - Pre-requisites for this course (if any) : None			
8 - Co-requisites for this course (if any) : None			
9 - Location if not on main campus : Al-Yahya Building- Majmaah			
10 - Mode of Instruction (mark all that apply)			
A - Traditional classroom	√	What percentage?	70 %
B - Blended (traditional and online)	√	What percentage?	20 %
D - e-learning	√	What percentage?	10 %
E - Correspondence		What percentage?	……. %
F - Other		What percentage?	……. %
Comments :			

B Objectives

What is the main purpose for this course?

- Recognize the main types of rocks in nature with their properties.
- Identify physical and chemical properties of rock minerals.
- Provide students with different applications of Engineering Geology in the field of Civil Engineering.
- Understand the main geologic structures: faults, folds and joints.
- Learn desired natural materials for the construction purposes according to the geotechnical properties of rocks.

Briefly describe any plans for developing and improving the course that are being implemented :

- Revising the distribution of lecture, exercise, labs as (1,0,2).

- Organizing field trips for better understanding.

C. Course Description

1. Topics to be Covered

List of Topics	No. of Weeks	Contact Hours
Introduction	1	3
Branches of Earth Sciences	1	3
Properties of Minerals and types of Rocks	1	3
Igneous Rocks	1	3
Midterm 1	1/3	1
Sedimentary Rocks	2	6
Metamorphic Rocks	1	3
Structure Geology: Faults, Folds and Joints	2	6
Application of Structural Geology in Civil Engineering	1	3
Midterm-II	2/3	2
Geological engineering of underground openings (Tunnels)	1	3
Earthquakes and Volcanoes	1	3
Groundwater	1	3
Geologic Maps	1	3
Total	15	45

2. Course components (total contact hours and credits per semester):

	Lecture	Tutorial	Laboratory	Practical	Other:	Total
Contact Hours	**30**	**15**	**0**	**0**	**0**	45
Credit	**2**	**1**	**0**	**0**	**0**	2

3. Additional private study/learning hours expected for students per week.

2-3

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	**Knowledge**		
1.1	The students will be able to define the different branches of earth sciences.	– Course delivery by citing real life examples and problems. – Emphasis on understanding concepts and illustrating applications to problems.	• Regular class discussions. • Midterm and End-semester examinations. • Reports and Home works.
1.2	The students will be able to recognize different minerals based on their properties.		
1.3	The students will be able to tell and describe Earthquake phenomena.		
1.4	The students will be able to tell sources of groundwater and describe its formation and movement.		
2.0	**Cognitive Skills**		
2.1	The students will be able to recognize, differentiate and classify different types of rocks.	- Giving power point presentation covering each topic. - Asking the students to gather samples and make reports. - Arranging a field trip to recognize geological structures.	• Quizzes and Exams. • Class discussion • Evaluation of reports and assignments.
2.2	The students will be able to explain main geologic structures: faults, folds and joints and interpret geological contour maps.		
2.3	The students will be able to estimate and predict some civil engineering problems as per geological structure.		
3.0	**Interpersonal Skills & Responsibility**		
3.1	The students will be able to choose most appropriate rocks as construction material.	- Dividing students into groups and sub-groups for better interaction with them. - Encouraging the students to execute tasks in time.	• Evaluation of reports and assignments. • Bonus marks for active students.
4.0	**Communication, Information Technology, Numerical**		
5.0	**Psychomotor**		

5. Schedule of Assessment Tasks for Students during the Semester:

	Assessment task	Week Due	Proportion of Total Assessment
1	First midterm exam	7	20
2	Second midterm exam	12	20
3	Quizzes	-	-
4	Report, and homework assignments	3-13	10
5	Field Trips/ Class Discussion	-	10
6	Final Exam	15	40
7	Total	-	100

D. Student Academic Counseling and Support

Every day one hour is marked as Office Hour in the Time Table of teaching staff. During this hour the students can consult the teacher individually on a one to one basis for academic advice. In all, teaching staff is available for more than 5 hours per week for academic advice beyond lectures and tutorials.

E. Learning Resources

1. List Required Textbooks : **Fred, B. (1993), Engineering Geology, Blackwell Scientific Publication.**
2. List Essential References Materials : **Geologic Reports from the Saudi Geologic Survey.**
3. List Recommended Textbooks and Reference Material : **Parbin Singh, "A Text Book of Engineering and General Geology".**
4. List Electronic Materials : **Selected Papers, and video clips from YouTube and trustable web sites.**
5. Other learning material : **Structural Geology (CD).**

F. Facilities Required

1. Accommodation • **Geologic lab with apparatus and equipment.** • **Availability of mineral and rock specimen.**
2. Computing resources **N/A**
3. Other resources **None**

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching: • **Course evaluation survey done by the students at the end of each semester.** • **Direct students feedback during class room teaching.**
2 Other Strategies for Evaluation of Teaching by the Program/ Department Instructor : • **Faculty Peer Assessment**
3 Processes for Improvement of Teaching : **Plan: The instructor will develop a strategy for teaching.** **Do: The strategy will be implemented for one semester.** **Study: The experiences of the students will be collected through a survey.** **Act: Effective teaching strategies will be implemented and revised as more experiences are gained.**

4. Processes for Verifying Standards of Student Achievement **Check marking of a sample of examination papers**.
5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement : **Continuous improvement is a circular process, encompassing student assessment, course planning and design, implementation, evaluation, and revision.** **A feedback from all relevant assessment tools must be considered in the continuous process of course objectives refinement and assessment.** **Continuous process for reviewing feedback from student on the quality of the course and planning for improvement.**

Course Specification Approved
Department Official Meeting No (11) Date 10 / 05 / 1437 *H*

Course Coordinator		Department Head	
Name :	**Dr. Yahya Aljahmany**	***Name :***	Dr. Abdullah AlShehri
Signature :	Yahya	***Signature :***	AlShehri
Date :	29/ 04 / 1437 *H*	***Date :***	10/ 05 / 1437 *H*