



Course Descriptor

CVEN231-Engineering Geology

ACADEMIC YEAR	2018-19	SEMESTER	Spring
Course Code	CVEN-231	Course Title	Engineering Geology
Credit hours	2	Level of study	Undergraduate
College / Centre	Engineering	Department	Civil Engineering
Pre-requisites	CHEM101	Co-requisites	--

1. COURSE OUTLINE

Study of the earth structure, rocks sediments and geological structures. Use of rocks in construction and mapping techniques. Study of soil, ground water and rivers in relation with civil and environmental engineering.

2. AIMS

The students should be able to understand Earth and its system, mineral rocks, and its mechanics. Understand structural deformation, soil, rocks, ground water, rivers, mass movement and stability. Use of laboratory tools and equipment's and investigates properties by using standards set of silicates, rocks, Moh's hardness test kit and Munsell color chart.

3. LEARNING OUTCOMES, TEACHING, LEARNING and ASSESSMENT METHODS (Indicative)

Learning Outcomes (Definitive)	Teaching and Learning methods (Indicative)	Assessment (Indicative)
1. Gain the ability to categorize rocks by their origin and engineering properties	Lectures, presentation	<i>Assignments and Examinations</i>
2. Gain the ability to apply engineering science principles to rock masses and discontinuities in engineering design	Lectures, presentation, lab work	<i>Assignments and Examinations</i>
3. Know how to obtain rock properties required for some design applications	Lectures, presentation	<i>Assignments and Examinations</i>
4. Ability in using standard set of silicates, rocks, Mineral test kit, Munsell chart and can determine the required properties.	Lectures, presentation, Lab work	<i>Assignments and Examinations</i>



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4. ASSESSMENT WEIGHTING

Assessment	Percentage of final mark (%)
Assignments/ Presentation	20%
Mid-term Examination	2x20 = 40%
Final Examination	40%
TOTAL	100%

5. ACHIEVING A PASS

Students will achieve **3** credit hours for this course by passing **ALL** of the course assessments [*alternatively, list the compulsory pass assessments**] and achieving a **minimum overall score of 50%**

NB *Ensure that ALL learning outcomes are taken into account

6. COURSE CONTENT (Indicative)

WEEK	LECTURE TOPIC	TIME (HOURS)
1	Introduction and Application of Engineering Geology in Civil and Environmental Engineering Projects	2
2	Introduction and Application of Engineering Geology in Civil and Environmental Engineering Projects	2
3	Introduction and Application of Engineering Geology in Civil and Environmental Engineering Projects	2
4	The Earth and its System (Crust, ,Mantle, Outer Core and Inner Core, Plates movement, Ring of fire, earthquake)	2
5	The Earth and its System (Crust, ,Mantle, Outer Core and Inner Core, Plates movement, Ring of fire, earthquake)	2
6	The Earth and its System (Crust, ,Mantle, Outer Core and Inner Core, Plates movement, Ring of fire, earthquake)	2
7	Components of the Earth (Elements, Minerals and Rocks)	2
8	Components of the Earth (Elements, Minerals and Rocks)	2
9	Components of the Earth (Elements, Minerals and Rocks)	2
10	Ground Water	2
11	Ground Water	2



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6. COURSE CONTENT (Indicative)		
WEEK	LECTURE TOPIC	TIME (HOURS)
12	Ground Water	2
13	Ground Water	2
14	Soils, soil hazards, and land subsidence	2
15	Soils, soil hazards, and land subsidence	2
	Revision	
	TOTAL HOURS	30
1 - 15	Plus RECOMMENDED INDEPENDENT STUDY HOURS	60
	TOTAL COURSE HOURS	90

7. RECOMMENDED READING

Core text/s:

1. Geology for Engineers Environmental Studies (2014): Pearson New International Edition (3rd edition) by Kehew, Alan E. ISBN: 9781292039107, 1292039108. Publisher: Pearson UK
2. Exercises in Physical Geology (2014): Pearson New International Edition (12th edition) by Hamblin, W. Kenneth; Howard, James D. ISBN: 9781292040066, 1292040068 Publisher: Pearson UK

Library + online resources:

1. NPTEL website for Civil Engineering Students.
2. ICE virtual website (www.ice.org.uk)