



MODULE SPECIFICATION

Part 1: Information			
Module Title	Engineering Geology Design Project		
Module Code	UBGMLU-15-2	Level	Level 5
For implementation from	2019-20		
UWE Credit Rating	15	ECTS Credit Rating	7.5
Faculty	Faculty of Environment & Technology	Field	Geography and Environmental Management
Department	FET Dept of Geography & Environmental Mgmt		
Module type:	Project		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p>Overview: This module comprises a link between Geology and Civil Engineering and it is designed to introduce students to the applications of Geological Engineering.</p> <p>Features: Module entry requirements: 60 credits at Level 1</p> <p>Educational Aims: This module aims to enable students to recognise and explore the geological factors that may account for the design, operation and maintenance of Civil Engineering Structures and Foundations, as well as to propose effective solutions to geo-environmental Engineering problems.</p> <p>Outline Syllabus: This module will cover:</p> <p>Minerals, rocks, and geologic structures. The geological timescale and principles of stratigraphy.</p> <p>Engineering description of soils and rocks and factors affecting their strength behaviour.</p> <p>Effective stress and shear strength behaviour of soils, and Mohr's circle.</p> <p>Introduction to design of foundations, earth works and excavations.</p>

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Land slide, Rockslide, Rock Falls, prevention and mitigation of geological hazards.

Slope failure and improving stability of earth and rocks slopes.

Geological exploration of engineering sites (site investigations, rock mass characterization and engineering geological mapping).

Geological investigation for roads, railways, bridges and critical infrastructure.

Principal geological factors affecting certain engineering projects.

Ground water and ground water recharging.

Teaching and Learning Methods: Scheduled learning on this module includes lectures, practical work and fieldwork.

Independent learning includes time engaged with directed e-learning, further reading, assessment preparation and assessment completion.

Part 3: Assessment

Component A: Students will explore the taught theoretical background to the different geological factors that affect design and construction of infrastructural systems, by conducting a literature review of reported case studies, and make an individual presentation of their findings. This component will be marked, fed back on and will lead into Component B.

Component B: Students will apply their knowledge of the impact of geological factors on engineering projects to design, and produce a site investigation report for professionals and organisations, putting forward ideas including how these geological problems can be combated. Students will be guided in their choice of site and associated project.

Formative Assessment - Practical tests, assignments and feedback

Summative Assessment

Component A – Individual presentation. Learning outcomes 1-3. 15 min presentation.

Component B - Coursework. Learning outcomes 4-5. Individual report (2500 words).

First Sit Components	Final Assessment	Element weighting	Description
Report - Component B	✓	50 %	Individual report (2500 words)
Presentation - Component A		50 %	Individual presentation (15min presentation)
Resit Components	Final Assessment	Element weighting	Description
Report - Component B	✓	50 %	Individual report (2500 words)
Presentation - Component A		50 %	Individual presentation (15min presentation)

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Part 4: Teaching and Learning Methods																	
Learning Outcomes	<p>On successful completion of this module students will achieve the following learning outcomes:</p> <table border="1"> <thead> <tr> <th style="text-align: left;">Module Learning Outcomes</th> <th style="text-align: left;">Reference</th> </tr> </thead> <tbody> <tr> <td>Explain the engineering properties and behaviour of soil and rock as engineering material</td> <td>MO1</td> </tr> <tr> <td>Assess geological conditions for engineering purposes and identify geological engineering factors affecting civil and construction engineering</td> <td>MO2</td> </tr> <tr> <td>Identify and report causes of geological failures and define future measures for protection</td> <td>MO3</td> </tr> <tr> <td>Design basic site investigations and strategies</td> <td>MO4</td> </tr> <tr> <td>Demonstrate (within context) the design and construction of foundations, earth works and excavations for infrastructures</td> <td>MO5</td> </tr> </tbody> </table>	Module Learning Outcomes	Reference	Explain the engineering properties and behaviour of soil and rock as engineering material	MO1	Assess geological conditions for engineering purposes and identify geological engineering factors affecting civil and construction engineering	MO2	Identify and report causes of geological failures and define future measures for protection	MO3	Design basic site investigations and strategies	MO4	Demonstrate (within context) the design and construction of foundations, earth works and excavations for infrastructures	MO5				
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Reading List	<p><i>The reading list for this module can be accessed via the following link:</i></p> <p>https://uwe.rl.talis.com/modules/ubgmlu-15-2.html</p>																

Part 5: Contributes Towards
<p>This module contributes towards the following programmes of study:</p> <p>Civil Engineering [Jan][FT][Northshore][4yrs] MEng 2018-19</p> <p>Civil and Environmental Engineering [Sep][SW][Frenchay][4yrs] BEng (Hons) 2018-19</p> <p>Civil and Environmental Engineering [Sep][FT][Frenchay][4yrs] MEng 2018-19</p> <p>Civil and Environmental Engineering [Sep][SW][Frenchay][5yrs] MEng 2018-19</p> <p>Civil and Environmental Engineering [Sep][FT][Frenchay][3yrs] BEng (Hons) 2018-19</p>