



## MODULE SPECIFICATION

Part 1: Information			
Module Title	Geotechnical Hazards		
Module Code	UBGMM8-15-3	Level	Level 6
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:	Standard		
Pre-requisites	Geotechnics 2019-20		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p><b>Features:</b> Module Entry Requirements: 60 credits at Level 2</p> <p><b>Educational Aims:</b> See Learning Outcomes.</p> <p><b>Outline Syllabus:</b> The syllabus includes:</p> <p>Principal theories and concepts of hazard and risk.            Seismic hazards (other than earthquakes): soil liquefaction, landslides            Non seismic hazards: subsidence, ground failure, slope failure, creep, debris flows, permafrost.            Dam and reservoir failure.            Technological hazards, radioactive waste.            Geotechnical risk assessment and mitigation.            Desk study: aerial photography, geological maps, cross sections.            Ground investigation: preparation of hazard maps, technical reports.</p> <p><b>Teaching and Learning Methods:</b> Scheduled learning on this module includes lectures, demonstrations and practical classes. Fieldwork sessions will aid knowledge and skills development.</p> <p>Independent learning includes hours engaged with essential reading, completion of practical</p>

## STUDENT AND ACADEMIC SERVICES

work, assignment preparation and completion. These sessions constitute an average time as indicated:

Activity:

Contact time (lectures, field and laboratory sessions): 36 hours

Assimilation, development of knowledge and independent reading: 65 hours

Viva preparation: 24 hours

Coursework preparation: 25 hours

Total study time: 150 hours

This module is designed to run year long (long thin format). Students will receive, on average, 1-2 hours' contact time per week during the year. This is essentially a practical module but principles and concepts will be covered in lectures early in the course. Practical sessions, which will be introduced by demonstrations, will enable students to develop their skills in carrying out initial desk studies, using instruments, recording and analysing data. There will be a 4-day residential field visit towards the end of the module during which time students will work on a geotechnical problem for their summative assessment and apply skills and knowledge they have built up throughout the module. One-to-one support will be provided during practical and field sessions and via email.

### Part 3: Assessment

Summative assessment:

Component A – Viva:

Students will be examined viva voce on the content and arguments put forward in their technical report.

This will assess the students' level of understanding of concepts, procedures and geotechnical hazards.

It will enable an exploration of the students' thinking and obtain clarification and enable arguments to be tested more deeply.

The viva can help students to extend their thinking and generate new ideas.

Component B – Technical report (1500 words):

The technical report will be submitted following the residential field excursion.

Students will carry out a desk study prior to the trip and will be given

formative feedback to help with the site assessment and the field study technical report.

The report will assess students' achievement and capabilities in the practical skills of field measurement and data collection.

It will indicate their ability to analyse and interpret data, their judgement and problem-solving skills and their literacy and presentation skills.

Formative work:

Formative work will be set during practical and field sessions for students' self assessment. Students will receive preparation exercises during practical sessions for the summative assessment that may include a mock viva.

First Sit Components	Final Assessment	Element weighting	Description
Report - Component B		50 %	Technical report (1500 words)
Presentation - Component A	✓	50 %	Viva (30 mins)
Resit Components	Final Assessment	Element weighting	Description
Report - Component B		50 %	Technical report (1500 words)
Presentation - Component A	✓	50 %	Viva (30 mins)

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<b>Part 4: Teaching and Learning Methods</b>																	
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;"><b>Module Learning Outcomes</b></th> <th style="text-align: left;"><b>Reference</b></th> </tr> </thead> <tbody> <tr> <td>Appraise and interpret the fundamental behaviour under stress of rock and soil</td> <td>MO1</td> </tr> <tr> <td>Critically evaluate the concepts of hazard and risk and their interpretation in a geological context</td> <td>MO2</td> </tr> <tr> <td>Critically evaluate and use appropriate ground investigation and analysis techniques</td> <td>MO3</td> </tr> <tr> <td>Apply geological and geotechnical principles to the solution of complex geotechnical hazards</td> <td>MO4</td> </tr> <tr> <td>Describe and record geological materials and their properties in the field to current European standards</td> <td>MO5</td> </tr> <tr> <td>Research, plan and present results of a geotechnical hazard assessment, prepare technical reports and give presentations at a professional standard</td> <td>MO6</td> </tr> <tr> <td>Demonstrate independent engagement with academic literature</td> <td>MO7</td> </tr> </tbody> </table>	<b>Module Learning Outcomes</b>	<b>Reference</b>	Appraise and interpret the fundamental behaviour under stress of rock and soil	MO1	Critically evaluate the concepts of hazard and risk and their interpretation in a geological context	MO2	Critically evaluate and use appropriate ground investigation and analysis techniques	MO3	Apply geological and geotechnical principles to the solution of complex geotechnical hazards	MO4	Describe and record geological materials and their properties in the field to current European standards	MO5	Research, plan and present results of a geotechnical hazard assessment, prepare technical reports and give presentations at a professional standard	MO6	Demonstrate independent engagement with academic literature	MO7
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Reading List	<p><i>The reading list for this module can be accessed via the following link:</i></p> <p><a href="https://uwe.rl.talis.com/index.html">https://uwe.rl.talis.com/index.html</a></p>																

<b>Part 5: Contributes Towards</b>
This module contributes towards the following programmes of study: