# MODULE SPECIFICATION

| Part 1: Information | | | |
|---|---|---|---|
| Module Title | Geotechnical Hazards | | |
| Module Code | UBGMM8-15-3 | Level | Level 6 |
| For implementation from | 2020-21 | | |
| UWE Credit Rating | 15 | ECTS Credit Rating | 7.5 |
| Faculty | Faculty of Environment & Technology | Field | Geography and Environmental Management |
| Department | FET Dept of Geography & Envrnmental Mgmt | | |
| Module type: | Standard | | |
| Pre-requisites | Geotechnics 2020-21 | | |
| Excluded Combinations | None | | |
| Co- requisites | None | | |
| Module Entry requirements | None | | |

## Part 2: Description

**Features**: Module Entry Requirements: 60 credits at Level 2

**Educational Aims:** See Learning Outcomes.

**Outline Syllabus:** The syllabus includes:

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.

**Teaching and Learning Methods:** Scheduled learning on this module includes lectures, demonstrations and practical classes. Fieldwork sessions will aid knowledge and skills development.

Independent learning includes hours engaged with essential reading, completion of practical 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 field visits during the module to give context to the summative assessment, and apply skills and knowledge students 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):
Students will create a technical report, following a desk study which will enable formative feedback to feed into the site assessment and the field study technical report.
The report will assess students' abilities 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 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** |
|---|---|---|---|
| Presentation - Component A | ✓ | 50 % | Viva (30 mins) |
| Report - Component B | | 50 % | Technical report (1500 words) |
| Resit Components | **Final Assessment** | **Element weighting** | **Description** |
| Presentation - Component A | ✓ | 50 % | Viva (30 mins) |
| Report - Component B | | 50 % | Technical report (1500 words) |

## Part 4: Teaching and Learning Methods

**Learning Outcomes**

On successful completion of this module students will achieve the following learning outcomes:

| Module Learning Outcomes | Reference |
|---|---|
| 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 |

**Contact Hours**

| | |
|---|---|
| **Independent Study Hours:** | |
| Independent study/self-guided study | 114 |
| **Total Independent Study Hours:** | 114 |
| **Scheduled Learning and Teaching Hours:** | |
| Face-to-face learning | 36 |
| **Total Scheduled Learning and Teaching Hours:** | 36 |
| **Hours to be allocated** | 150 |
| **Allocated Hours** | 150 |

**Reading List**

*The reading list for this module can be accessed via the following link:*

https://rl.talis.com/3/uwe/lists/BEAC5E4D-3355-3ACE-A0BA-0CD55FAD62FF.html?lang=en-GB&login=1

## Part 5: Contributes Towards

This module contributes towards the following programmes of study:

Geology [Sep][FT][Frenchay][3yrs] BSc (Hons) 2018-19