Module Specification

Geotechnical Hazards

Version: 2023-24, v2.0, 18 Apr 2023

Contents

Part 1: Information

Module title: Geotechnical Hazards

Module code: UBGMM8-15-3

Level: Level 6

For implementation from: 2023-24

UWE credit rating: 15

ECTS credit rating: 7.5

Faculty: Faculty of Environment & Technology

Department: FET Dept of Geography & Envrnmental Mgmt

Partner institutions: None

Field: Geography and Environmental Management

Module type: Module

Pre-requisites: Geotechnics 2023-24

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Not applicable

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.

Part 3: Teaching and learning methods

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.

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

MO1 Appraise and interpret the fundamental behaviour under stress of rock and soil

MO2 Critically evaluate the concepts of hazard and risk and their interpretation in a geological context

MO3 Critically evaluate and use appropriate ground investigation and analysis techniques

MO4 Apply geological and geotechnical principles to the solution of complex geotechnical hazards

MO5 Describe and record geological materials and their properties in the field to current European standards

MO6 Research, plan and present results of a geotechnical hazard assessment, prepare technical reports and give presentations at a professional standard

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 114 hours

Face-to-face learning = 36 hours

Total = 150

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link https://rl.talis.com/3/uwe/lists/BEAC5E4D-3355-3ACE-A0BA-0CD55FAD62FF.html?lang=en-GB&login=1

Part 4: Assessment

Assessment strategy: Summative assessment:

Assessment Task 1– 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.

Assessment Task 2 – Technical report (1500 words):
Students will create a technical report, following fieldwork and 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' 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.

Assessment tasks:

Presentation (First Sit)
Description: Viva (30 mins)
Weighting: 50 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6

Report (First Sit)
Description: Technical report (1500 words)
Weighting: 50 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6

Presentation (Resit)
Description: Viva (30 mins)
Weighting: 50 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6

Report (Resit)
Description: Technical report (1500 words)
Weighting: 50 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Geology [Sep][FT][Frenchay][3yrs] - Not Running BSc (Hons) 2021-22

Geology [Sep][SW][Frenchay][4yrs] - Not Running BSc (Hons) 2021-22