



Module Specification

Engineering Geology

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Part 1: Information

Module title: Engineering Geology

Module code: UBGL68-15-3

Level: Level 6

For implementation from: 2026-27

UWE credit rating: 15

ECTS credit rating: 7.5

College: College of Arts, Technology and Environment

School: CATE School of Architecture and Environment

Partner institutions: None

Field:

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: This module comprises a link between Geology and Civil Engineering and it is designed to introduce students to the applications of Engineering Geology and explore the mitigation/prevention of Geotechnical Hazards.

Features: Not applicable

Educational aims: This module aims to enable students to recognise and explore the geological factors that influence the design, operation and maintenance of civil

engineering structures and foundations, as well as to propose effective solutions to engineering geological problems and geotechnical hazards

Outline syllabus: The syllabus will typically include:

- rocks, rock masses, rock mass classifications
- geological structures and maps
- engineering description of soils and rocks and factors affecting their behaviour
- geotechnical hazards (landslides, dam failures, earthquakes), their mitigation and prevention
- geological investigations of engineering sites (site investigations, rock mass rating and engineering geological mapping) for roads, railways, bridges, tunnels, dams, critical infrastructure and geothermal site exploration
- groundwater and design of abstraction works

Part 3: Teaching and learning methods

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

Independent learning includes time engaged with essential and further reading, use of e-learning resources, assessment preparation and assessment completion.

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

MO1 Explain the engineering properties and behaviour of soil and rock as engineering material

MO2 Analyse geological conditions for civil engineering purposes

MO3 Identify and evaluate geotechnical hazards and design appropriate protection and mitigation measures

MO4 Design earth works, groundwater abstraction and rock support as well as basic site investigations for dam construction, tunnels, geothermal exploration and other engineering geological projects

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](https://rl.talis.com/3/uwe/lists/5A48E396-FCF1-D221-B877-75A6A015BD38.html?lang=en&login=1) via the following link <https://rl.talis.com/3/uwe/lists/5A48E396-FCF1-D221-B877-75A6A015BD38.html?lang=en&login=1>

Part 4: Assessment

Assessment strategy: Summative Assessment consists of two tasks: an individual presentation and a group design report.

Presentation (individual work): 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 task will be marked, fed back on and will lead into the report task.

Design report (group work): Students will, in small groups (2 - 3 students), apply their knowledge of the impact of geological factors on engineering projects. They will design, and produce a report for professionals and organisations, either for earth works, groundwater abstraction or rock support, or a solution to a specific geotechnical hazards case, or a site investigation for dam construction and geothermal exploration. Students will be guided in their choice of site and associated project.

Referral deliverable(s) will be scaled appropriately to group size and task complexity.

Guidance on how to complete group work will be provided and students will be

expected to attend timetabled sessions to share their progress with the work. Students will be expected to complete individual peer assessment forms as part of the submission, as set out in the School Group work policy. There will be one mark given per group if the peer assessment form indicate that the work was completed equally; if these forms indicate that one person has not completed the same amount of work the marks will be different for the people within the group.

Formative work:

Formative work will be set weekly during practical and tutorial sessions for students' self assessment. Students will receive preparation exercises including discussions during tutorials for the summative assessment

Assessment tasks:**Presentation (First Sit)**

Description: Presentation (15 minutes)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3

Report (First Sit)

Description: Report (2500 words)

Weighting: 50 %

Final assessment: Yes

Group work: Yes

Learning outcomes tested: MO4

Presentation (Resit)

Description: Presentation (15 minutes)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3

Report (Resit)

Description: Report (2500 words)

Weighting: 50 %

Final assessment: Yes

Group work: Yes

Learning outcomes tested: MO4

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Civil Engineering [Frenchay] BEng (Hons) 2024-25

Civil Engineering [Frenchay] MEng 2024-25