



## **Module Specification**

### Hydrogeology 1

Version: 2023-24, v3.0, 27 Jul 2023

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## Part 1: Information

**Module title:** Hydrogeology 1

**Module code:** UBGML8-15-2

**Level:** Level 5

**For implementation from:** 2023-24

**UWE credit rating:** 15

**ECTS credit rating:** 7.5

**Faculty:** Faculty of Environment & Technology

**Department:** FET Dept of Geography & Environmental Mgmt

**Partner institutions:** None

**Field:** Geography and Environmental Management

**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:** Not applicable

**Features:** Module Entry Requirements: 60 credits at Level 1

**Educational aims:** See Learning Outcomes.

**Outline syllabus:** The syllabus includes:

Principal theories and concepts, hydrological cycle, water budgets.

Aquifer properties, porosity and permeability.

Flow in porous media (Darcy's Law).

Groundwater in relation to geological processes and rock types.

Groundwater and catchment processes.

Water management issues.

### **Part 3: Teaching and learning methods**

**Teaching and learning methods:** Scheduled learning on this module includes lectures, demonstrations and practical classes. Local 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:

Students will receive, on average, 3 hours' contact time per week during one Teaching Block. This will be predominantly in the form of keynote lectures to introduce the principal theories and concepts and practical sessions for students to gain hands-on experience of map work in hydrogeological contexts and of using particular instruments. The practical sessions will be introduced by demonstrations and there will be local field excursions. One-to-one support will be provided during practical sessions and via email.

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

**MO1** Evaluate and use standard techniques for measurement of hydrogeological parameters

**MO2** Use numerical data to solve issues in hydrogeology

**MO3** Employ analytical and graphical techniques to predict movement of groundwater

**MO4** Evaluate the importance of underlying geology on groundwater distribution

**MO5** Apply hydrogeological knowledge to a critical analysis of water management issues

**MO6** Demonstrate independent engagement with academic literature

**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://uwe.rl.talis.com/index.html) via the following link <https://uwe.rl.talis.com/index.html>

## **Part 4: Assessment**

**Assessment strategy:** Summative assessment:

Task 1 – In-class test (2 x 1 hour):

Written test.

This will assess students' understanding of key hydrogeological concepts and theories and how they are applied to water resource issues and problems.

Students will be able to demonstrate their engagement with academic literature.

Resit: In class test

Task 2 – Portfolio of practical work:

Equivalent to 1500 words.

Students will construct this portfolio during the module and will receive formative feedback during the practical sessions.

The portfolio will assess students' ability to use geological resources, numerical and analytical methods in groundwater studies.

Resit same as first sit.

Formative work:

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

**Assessment tasks:**

**In-class test** (First Sit)

Description: Written tests (2 hours - 2 x 1 hour)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO3, MO4, MO5, MO6

**Portfolio** (First Sit)

Description: Portfolio of practical work (1500 words)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6

**In-class test** (Resit)

Description: Online Test (24 hour window)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO3, MO4, MO5, MO6

**Portfolio** (Resit)

Description: Portfolio of practical work (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][SW][Frenchay][4yrs] - Not Running BSc (Hons) 2022-23

Geology [Sep][FT][Frenchay][3yrs] - Not Running BSc (Hons) 2022-23