



Module Specification

Hydrogeology 2

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Part 1: Information

Module title: Hydrogeology 2

Module code: UBGMKP-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 & Environmental Mgmt

Partner institutions: None

Field: Geography and Environmental Management

Module type: Module

Pre-requisites: Hydrogeology 1 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.

Groundwater investigation techniques.

Contaminant hydrogeology.

Groundwater chemistry and water quality.

Pollution remediation.

Groundwater resources and environmental management.

Groundwater models, recharge estimation.

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 below:

Students will receive, on average, 3 hours' contact time per week. The principal theories and concepts will be introduced by short lectures but the main content of the course relates to field and practical work. Practical sessions, which will be introduced by a demonstration, will enable students to gain experience of modelling groundwater flow, investigating groundwater chemistry and resource estimation. Field skills in measurement and problem solving will be built in during local excursions. 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 Critically evaluate and perform standard techniques to investigate groundwater resources

MO2 Model groundwater flow and recharge estimation using appropriate numerical methods

MO3 Appraise and implement analytical and graphical techniques to investigate pollution and contaminant transport in groundwater

MO4 Synthesise and apply hydrogeological knowledge to inform environmental management and remediation plans at a professional level

MO5 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 on unseen questions.

This will enable students to demonstrate their knowledge and understanding of hydrogeological concepts and theories.

Students will have the opportunity to apply knowledge and understanding of numerical methods to analyse and solve problems and issues related to groundwater supply and pollution.

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

The resit is in-class test (2 hours).

Task 2 – Independent case study report:

Equivalent to 1000 words.

This will demonstrate students' ability to research and synthesise information on a real global issue in groundwater supply or pollution.

The report will indicate the students' ability to analyse or model the situation and make judgements and recommendations.

The resit is the same as above.

Formative work:

Formative work will be set weekly during practical sessions for students' self assessment and to help in producing the case study report. Students will receive preparation exercises for the summative assessment that may include a mock exam.

Assessment tasks:

In-class test (First Sit)

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

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO3, MO4, MO5

Report (First Sit)

Description: Independant case study report (1000 words)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO5

In-class test (Resit)

Description: Written test (2 hours)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO3, MO4, MO5

Report (Resit)

Description: Independent case study report (1000 words)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO5

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