Module Specification

Hydrogeology 1

Version: 2021-22, v2.0, 19 Jul 2021

Contents

Part 1: Information

Module title: Hydrogeology 1

Module code: UBGML8-15-2

Level: Level 5

For implementation from: 2021-22

UWE credit rating: 15

ECTS credit rating: 7.5

Faculty: Faculty of Environment & Technology

Department: FET Dept of Geography & Envrnmental Mgmt

Partner institutions: None

Delivery locations: Frenchay Campus

Field: Geography and Environmental Management

Module type: Standard

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:

Activity:
Contact time (lectures, field and laboratory sessions): 36 hours
Assimilation, development of knowledge and independent reading: 65 hours
Test preparation: 24 hours
Coursework preparation: 25 hours
Total study time: 150 hours

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:

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 via the following link https://uwe.rl.talis.com/index.html

Part 4: Assessment

Assessment strategy: Summative assessment:

Component A – 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.

Component B – 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.

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 components:

In-class test - Component A (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 - Component B (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

Examination (Online) - Component A (Resit)
Description: Online exam (24 hour window)
Weighting: 50 %
Final assessment: Yes
Group work: No
Learning outcomes tested:

Practical Skills Assessment - Component B (Resit)

Description: Practical exercises (1500 words)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested:

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Geology [Sep][FT][Frenchay][3yrs] BSc (Hons) 2020-21

Geology [Sep][SW][Frenchay][4yrs] BSc (Hons) 2020-21