Module Specification

Construction and Environmental Materials

Version: 2021-22, v4.0, 23 Dec 2021

Contents

Part 1: Information

Module title: Construction and Environmental Materials

Module code: UBGMY9-15-1

Level: Level 4

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: Not applicable

Educational aims: See Learning Outcomes

Outline syllabus: The module will cover the mechanical and physical properties, durability and environmental aspects of a range of construction materials, including:

Concrete

Masonry

Steel (including carbon, stainless and weathering steel; high tensile steel; welding and fatigue; corrosion protection)

Timber

Glass

Bitumen

Polymers and emerging materials

You will also cover the associated testing procedures and specifications.

Part 3: Teaching and learning methods

Teaching and learning methods: The module will be taught through lectures, introducing the principal concepts and theories, which are then expanded on through practical laboratory sessions.

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

MO1 Define the mechanical and physical properties of construction materials

MO2 Explain how the composition and structure of construction materials and soils determine their mechanical and physical properties

MO3 Explain mechanisms of corrosion and factors which determine durability

MO4 Assess the engineering properties of construction materials through laboratory testing and data analysis

MO5 Assess the engineering properties of construction materials through a review of 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/modules/ubgmy9-15-1.html

Part 4: Assessment

Assessment strategy: The assessment strategy uses a written examination to assess learning outcomes related to the application of knowledge.

The learning outcomes which require use of laboratory data, or time, or research and development of solutions are assessed in a portfolio, to allow students to explore the subject matter and develop their knowledge.

Component A - Examination. Learning outcomes 1, 2, 3
Written examination based on classical questions about construction and environmental materials.

Component B – Portfolio (2000 words). Learning outcomes 4 and 5
The portfolio comprises of a number of smaller work items that require the students to discuss and reflect on the results of laboratory work completed in the module; in the context of material properties, literature and the impact on the use of the material in civil engineering applications.

Resit strategy

2000 word portfolio. The portfolio will comprise a similar range of tasks to the first sit.

Assessment components:

Examination (Online) - Component A (First Sit)

Description: Online Examination: 4 hours

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3

Portfolio - Component B (First Sit)

Description: Portfolio (2000 words)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO4, MO5

Examination (Online) - Component A (Resit)

Description: online Examination (4 hours)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested:

Portfolio - Component B (Resit)

Description: Portfolio (2000 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:

Civil Engineering [Sep][FT][Frenchay][4yrs] MEng 2021-22

Civil Engineering {Apprenticeship-UWE} [Sep][FT][Frenchay][5yrs] BEng (Hons) 2021-22

Civil Engineering [Sep][PT][Frenchay][7yrs] MEng 2021-22

Civil Engineering [Sep][SW][Frenchay][5yrs] MEng 2021-22

Civil and Environmental Engineering [Sep][SW][Frenchay][4yrs] BEng (Hons) 2021-22

Civil and Environmental Engineering [Sep][PT][Frenchay][5yrs] BEng (Hons) 2021-22

Civil and Environmental Engineering [Sep][FT][Frenchay][3yrs] BEng (Hons) 2021-22

Civil Engineering [Sep][SW][Frenchay][4yrs] BEng (Hons) 2021-22

Civil Engineering [Sep][FT][Frenchay][3yrs] BEng (Hons) 2021-22

Civil Engineering [Sep][PT][Frenchay][5yrs] BEng (Hons) 2021-22

Civil and Environmental Engineering {Foundation} [Sep][SW][Frenchay][5yrs] BEng (Hons) 2020-21

Civil and Environmental Engineering {Foundation} [Sep][FT][Frenchay][4yrs] BEng (Hons) 2020-21

Civil Engineering {Foundation} [Sep][FT][Frenchay][4yrs] BEng (Hons) 2020-21

Civil Engineering {Foundation} [Sep][SW][Frenchay][5yrs] BEng (Hons) 2020-21