



MODULE SPECIFICATION

Part 1: Information			
Module Title	Construction and Environmental Materials		
Module Code	UBGMY9-15-1	Level	Level 4
For implementation from	2018-19		
UWE Credit Rating	15	ECTS Credit Rating	7.5
Faculty	Faculty of Environment & Technology	Field	Geography and Environmental Management
Department	FET Dept of Geography & Environmental Mgmt		
Contributes towards	Civil and Environmental Engineering [Sep][SW][Frenchay][4yrs] BEng (Hons) 2018-19 Civil and Environmental Engineering [Sep][FT][Frenchay][4yrs] MEng 2018-19 Civil and Environmental Engineering [Sep][PT][Frenchay][7yrs] MEng 2018-19 Civil and Environmental Engineering [Sep][SW][Frenchay][5yrs] MEng 2018-19 Civil and Environmental Engineering [Sep][PT][Frenchay][5yrs] BEng (Hons) 2018-19 Civil and Environmental Engineering [Sep][FT][Frenchay][3yrs] BEng (Hons) 2018-19 Civil and Environmental Engineering {Apprenticeship} [Sep][PT][Frenchay][5yrs] BEng (Hons) 2018-19		
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

STUDENT AND ACADEMIC SERVICES

Part 2: Description

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.

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.

Part 3: Assessment

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

1 hour written examination based on classical questions about construction and environmental materials.

Component B1 – Portfolio (1000 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.

This will be supported by library research exercises that develop the students' ability to find, retrieve and critically appraise academic literature on the topic.

Component B2 – Report (2000 words). Learning outcomes 6 and 7

The report consists of a case study, where students select two viable construction materials and compare the environmental impacts and sustainability of the materials over the project lifecycle.

The report will allow students to engage with academic literature and develop their ability to assimilate and apply technical knowledge in relation to specific engineering issues.

Formative feedback is provided on both coursework elements through coursework feedback workshop which is run during one of the timetable sessions.

Resit strategy

3,000 word report. The report is extended to incorporate a task which will assess the learning outcomes previously covered in the portfolio.

STUDENT AND ACADEMIC SERVICES

First Sit Components	Final Assessment	Element weighting	Description
Report - Component B		25 %	Report (2000 words)
Portfolio - Component B		25 %	Portfolio (1000 words)
Examination - Component A	✓	50 %	Examination (1 hour)
Resit Components	Final Assessment	Element weighting	Description
Report - Component B		50 %	Report (3000 words)
Examination - Component A	✓	50 %	Examination (1 hour)

Part 4: Teaching and Learning Methods	
Learning Outcomes	On successful completion of this module students will be able to:
	Module 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 Carry out literature research in relation to the mechanical and physical properties of construction materials
	MO6 Contrast the environmental impact of different construction materials over their lifecycle
	MO7 Discuss how material selection may be influenced by a range of engineering considerations
Contact Hours	Contact Hours
	Independent Study Hours:
	Independent study/self-guided study 114
	Total Independent Study Hours: 114

STUDENT AND ACADEMIC SERVICES

	Scheduled Learning and Teaching Hours:	
	Face-to-face learning	36
	Total Scheduled Learning and Teaching Hours:	36
	Hours to be allocated	150
	Allocated Hours	150
Reading List	<p><i>The reading list for this module can be accessed via the following link:</i></p> <p>https://uwe.rl.talis.com/modules/ubgmy9-15-1.html</p>	