



MODULE SPECIFICATION

Part 1: Information			
Module Title	Bridge Engineering		
Module Code	UBGMTR-15-M	Level	Level 7
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 Engineering [Sep][FT][Frenchay][1yr] MSc 2018-19 Civil Engineering [Sep][PT][Frenchay][2yrs] MSc 2018-19		
Module type:	Project		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p>Educational Aims: The module aims to introduce students to the principles of bridge design, assessment and maintenance. Bridge types and elements, design and construction methods will be covered. Existing bridges will be considered in terms of inspection, testing, and maintenance techniques, particularly for concrete, steel and masonry bridges.</p> <p>In addition to Learning Outcomes, students will also develop team working and field working skills.</p> <p>Outline Syllabus: Indicative content:</p>

STUDENT AND ACADEMIC SERVICES

Bridge types and elements.

Structural behaviour of concrete, steel and masonry bridges.

Design of concrete, steel and masonry bridges.

Assessment and loading specifications.

Inspection and maintenance.

Health and safety.

Innovations in bridge engineering.

Teaching and Learning Methods: The module will be delivered through lectures, tutorials, case studies and field visits. Bridges from around the world will be used as case studies and guest speakers will be invited from industry. Hands-on experience in inspection, testing and monitoring will be gained through field visits. Group work carried out during field visits will form the basis of the individual technical report.

Part 3: Assessment

The learning outcomes are addressed through lectures, tutorials and field visits to design, analyse and develop solutions to complex engineering problems. Summative assessment will comprise:

Component A: Individual Technical Report based on:

bridge design covered during lectures and tutorials; and

field work activities on inspection and damage assessment of existing bridges.

In the individual technical report students will submit a detailed bridge design for a new bridge and assessment /evaluation of an existing bridge of their choice based on gathered field data.

Requirements for resit coursework will be the same as the original submission but students can either improve their original submission or select a case study of their choice without the need for field work.

Formative feedback will be given during tutorial sessions and field work.

First Sit Components	Final Assessment	Element weighting	Description
Report - Component A	✓	100 %	Technical report (4000 words equivalent)
Resit Components	Final Assessment	Element weighting	Description
Report - Component A	✓	100 %	Technical report (4000 words equivalent)

Part 4: Teaching and Learning Methods

Learning Outcomes	On successful completion of this module students will be able to:
	Module Learning Outcomes

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	MO1	Critically evaluate design concepts and demonstrate the ability to carry out appropriate design procedures for concrete, steel and masonry bridges
	MO2	Critically evaluate failure modes and types of defects for concrete, steel and masonry bridge
	MO3	Carry out data collection through field work
	MO4	Critically evaluate inspection and test data and propose appropriate maintenance/strengthening methods
	MO5	Demonstrate awareness of health and safety issues and how they may be addressed the during design, construction and maintenance stages
Contact Hours	Contact Hours	
	Independent Study Hours:	
	Independent study/self-guided study	114
	Total Independent Study Hours:	114
	Scheduled Learning and Teaching Hours:	
	Face-to-face learning	24
	Fieldwork exercise	12
	Total Scheduled Learning and Teaching Hours:	36
	Hours to be allocated	150
Allocated Hours	150	
Reading List	<p>The reading list for this module can be accessed via the following link:</p> <p>https://uwe.rl.talis.com/index.html</p>	