



MODULE SPECIFICATION

Part 1: Information			
Module Title	Building and Bridge Engineering		
Module Code	UBGMUN-15-M	Level	Level 7
For implementation from	2019-20		
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		
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p>Educational Aims: The module will be delivered by means of a series of lectures and tutorials.</p> <p>Outline Syllabus: Building Engineering</p> <p>Design of water supply, above ground and below ground waste disposal systems; vertical and horizontal circulation; electricity supply; air conditioning; integration of services for low, medium and high-rise buildings.</p> <p>Design of formwork, false work and cladding systems.</p> <p>Preparation of general arrangement and detail drawings using AUTOCAD.</p> <p>Bridge Engineering.</p> <p>Classification of bridges.</p> <p>Investigation for bridges.</p> <p>Bridge loading.</p>

STUDENT AND ACADEMIC SERVICES

Influence Lines and Surfaces.

Analysis and design of: concrete bridges, steel bridges, composite bridges.

Suspension bridges.

Arch bridges.

Introduction to cable stayed and box girder bridges.

Design of substructure and foundations.

Maintenance of bridges.

Construction techniques of bridges.

Teaching and Learning Methods: Scheduled learning includes lectures, seminars, tutorials, project supervision, demonstration, practical classes and workshops; fieldwork; external visits; work based learning; supervised time in studio/workshop. Independent learning includes hours engaged with essential reading, case study preparation, assignment preparation and completion etc.

Student time will be allocated as follows:

Lectures: 54 hours

Tutorials/field visits: 12 hours

Directed learning: 9 hours

Summative assessment: 33 hours

Self-directed learning: 42 hours

Total Student hours: 150 hours.

Part 3: Assessment

The strategy has been chosen to ensure that fundamental engineering principles are assessed under controlled conditions, while a more open ended research based assignments are used to encourage wider engagement and reflection on this topic. Summative assessment comprises a 2 hr examination for component A and one report for component B. Coursework Assignment One report of 3000 words will cover structural design aspects of bridges. Students are expected to submit individual reports and are assessed in learning outcomes 3 & 4 using this project report. Examination The 2 hr examination will cover the module syllabus on building engineering. An open book format will be used to allow reference to appropriate codes and standards. As part of formative assessment, students are encouraged to submit one field visit report of 1500 words for which feedback would be provided.

First Sit Components	Final Assessment	Element weighting	Description
Project - Component B		50 %	Project Report - Bridge Engineering (3000 words)
Examination - Component A	✓	50 %	Examination - Building Engineering (120 minutes)
Resit Components	Final Assessment	Element weighting	Description
Project - Component B		50 %	Project Report - Bridge Engineering (3000 words)
Examination - Component A	✓	50 %	Examination - Building Engineering (120 minutes)

STUDENT AND ACADEMIC SERVICES

Part 4: Teaching and Learning Methods																	
Learning Outcomes	<p>On successful completion of this module students will achieve the following learning outcomes:</p> <table border="1"> <thead> <tr> <th style="text-align: left;">Module Learning Outcomes</th> <th style="text-align: left;">Reference</th> </tr> </thead> <tbody> <tr> <td>Demonstrate an in-depth knowledge and understanding of building services required for domestic and commercial buildings.</td> <td>MO1</td> </tr> <tr> <td>Critically review the impact of building services on structural design.</td> <td>MO2</td> </tr> <tr> <td>Demonstrate an in-depth knowledge of a range of bridge structures and propose appropriate solutions for a given site taking into account the geometric functional, aesthetic and sustainability constraints.</td> <td>MO3</td> </tr> <tr> <td>Critically analyse and design steel, structural concrete and composite bridges.</td> <td>MO4</td> </tr> </tbody> </table>	Module Learning Outcomes	Reference	Demonstrate an in-depth knowledge and understanding of building services required for domestic and commercial buildings.	MO1	Critically review the impact of building services on structural design.	MO2	Demonstrate an in-depth knowledge of a range of bridge structures and propose appropriate solutions for a given site taking into account the geometric functional, aesthetic and sustainability constraints.	MO3	Critically analyse and design steel, structural concrete and composite bridges.	MO4						
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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/index.html</p>																

Part 5: Contributes Towards
This module contributes towards the following programmes of study: