MODULE SPECIFICATION

Part 1: Information			
Module Title	Design of Structures		
Module Code	UBGMSN-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 & Envrnmental Mgmt		
Contributes towards			
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description

Educational Aims: See Learning Outcomes

Outline Syllabus: Pre-stressed concrete structures: Basic principles and methods of pre-stressing; Materials for pre-stressing; pre-stress loss; Design of flexural members for serviceability and ultimate limit states.

Water retaining concrete structures: Introduction to code of practice; Basis of design and materials, Design aspects of reinforced concrete water retaining structures (rectangular/Intze type) – calculation of crack widths due to external loads, calculation of crack widths in relation to thermal and moisture effects, Joints in water retaining structures, Design examples.

Teaching and Learning Methods: Student time will be allocated as follows:

Lectures: 48 hours

Tutorials: 12 hours

Directed Learning: 12 hours

Summative assessment: 42 hours

Self directed learning: 36 hours

Total student hours: 150 hours

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.

The module will be delivered by means of a series of lectures and tutorials.

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 two assignments for component B.

Coursework Assignments:
Two assignments of 2000 words each will cover design of pre-stressed concrete structures and water retaining structures respectively. Students are assessed in learning outcomes 4-6 using these two assignments.

Examination:
The examination will cover the module syllabus as a whole, pulling together the individual learning outcomes 1-5. An open book format will be used to allow reference to appropriate codes and standards.

Formative assessment opportunities will be provided through four tutorial sessions and students are advised to attend all these tutorial sessions.

First Sit Components	**Final Assessment**	**Element weighting**	**Description**
Written Assignment - Component B		25 %	Assignment 1 (pre-stressed concrete) 2000 words
Written Assignment - Component B		25 %	Assignment 2 (water retaining structures) 2000 words
Examination - Component A	✓	50 %	Examination (120 minutes)
Resit Components	**Final Assessment**	**Element weighting**	**Description**
Written Assignment - Component B		25 %	Assignment 1 (pre-stressed concrete) 2000 words
Written Assignment - Component B		25 %	Assignment 2 (water retaining structures) 2000 words
Examination - Component A	✓	50 %	Examination (120 minutes)

Part 4: Teaching and Learning Methods

Learning Outcomes

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

	Module Learning Outcomes
MO1	Design statically determinate pre-stressed concrete beam elements
MO2	Demonstrate an in-depth understanding of the design of structures using pre-stressed concrete
MO3	Produce appropriate designs for rectangular overhead/ground water tanks
MO4	Appropriately use and apply technical design standards and other information sources
MO5	Convey complex information in the form of structural design calculations
MO6	Produce appropriate structural drawings based on design notes and sketches

Contact Hours

Contact Hours	
Independent Study Hours:	
Independent study/self-guided study	78
Total Independent Study Hours:	78
Scheduled Learning and Teaching Hours:	
Face-to-face learning	60
Tutorials	12
Total Scheduled Learning and Teaching Hours:	72
Hours to be allocated	150
Allocated Hours	150

Reading List

The reading list for this module can be accessed via the following link:

https://uwe.rl.talis.com/index.html