MODULE SPECIFICATION

Part 1: Information			
Module Title	Transport Engineering Design		
Module Code	UBGLX8-15-2	Level	Level 5
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	Engineering Principles for Civil Engineering 2018-19, Mathematics for Civil and Environmental Engineering 2018-19, Surveying, Gis, Drawing and Cad 2018-19		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description

Features: Module Entry Requirements:

For those not already on the BEng, or for others, A level mathematics or equivalent.

Educational Aims: See Learning Outcomes

Outline Syllabus: Sources of information for design including specifications and standards, and site specific parameters

The principles of geometric design for transport infrastructure

Horizontal and vertical curve design for highways and railways

Highway pavement and permanent way construction

Strength and characteristics of sub-grade

Infrastructure for preventing water ingress

Materials characteristics and selection for transport infrastructure

Teaching and Learning Methods: The module guide will provide a programme of activities for students on a week by week basis. This will include, for example, the programme of tutorial work that they should be keeping abreast with, the planned lectures and class tutorials, and the activities that they should be engaging with in order to complete the assignments. It will also include any reading which they should be doing linked with class and assignment activities. Guest lecturers will be used as appropriate.

This module will be delivered in the normal way as part of a semester of teaching. This will involve classes comprising teaching and tutorial time as follows:

Activity (Hours)
Contact time (36 hours)
Independent Learning Time (74 hours)
Coursework Preparation (40 hours)
Total Workload (150 hours)

Part 3: Assessment

Component A - Examination. Learning outcomes 1 to 7.

2 hour examination - open ended questions of an analytical nature with coverage of the full breadth of the syllabus.

Component B1 - Learning outcomes 1, 2 and 3.
Design problem relating to the adaptation of an existing alignment, or the introduction of a new connection in a network.

Component B2 - Learning outcomes 4, 5, 6 and 7.
Design problem relation to the selection of materials and the construction of a road or a railway.

First Sit Components	**Final Assessment**	**Element weighting**	**Description**
Set Exercise - Component B		15 %	Geometric design problem
Set Exercise - Component B		15 %	Construction design problem
Examination - Component A	✓	70 %	2 hour examination
Resit Components	**Final Assessment**	**Element weighting**	**Description**
Set Exercise - Component B		15 %	Geometric design problem
Set Exercise - Component B		15 %	Construction design problem
Examination - Component A	✓	70 %	2 hour examination

Part 4: Teaching and Learning Methods

Learning Outcomes

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

	Module Learning Outcomes
MO1	Understand the importance of and use of design speed in relation to geometric design of linear infrastructure
MO2	Understand the nature of vertical and horizontal curvature, and stopping and sighting distances in design
MO3	Undertake geometric design for highways and railways
MO4	Assess the strength and suitability of sub-grade for linear infrastructure
MO5	Understand the nature of materials used in linear infrastructure including sub bases, bituminous materials, pavement quality concrete, ballast, sleepers and rails
MO6	Select, with due regard to issues of sustainability, materials appropriate in the construction of linear infrastructure
MO7	Understand the importance of controlling water in the vicinity of linear infrastructure and methods to prevent or reduce its ingress

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	36
Total Scheduled Learning and Teaching Hours:	36
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/modules/ubglx8-15-2.html