



Module Specification

Transport Engineering Design

Version: 2025-26, v4.0, Approved

Contents

Module Specification	1
Part 1: Information	2
Part 2: Description	2
Part 3: Teaching and learning methods	3
Part 4: Assessment.....	4
Part 5: Contributes towards	5

Part 1: Information

Module title: Transport Engineering Design

Module code: UBGLX8-15-2

Level: Level 5

For implementation from: 2025-26

UWE credit rating: 15

ECTS credit rating: 7.5

College: College of Arts, Technology and Environment

School: CATE School of Engineering

Partner institutions: None

Field: Geography and Environmental Management

Module type: Module

Pre-requisites: Engineering Graphics and Communication 2024-25, Engineering Principles for Civil Engineering 2024-25, Mathematics for Civil and Environmental Engineering 2024-25, Surveying 2024-25

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Transport Engineering Design 2025-26

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

Part 3: Teaching and learning methods

Teaching and learning methods: The module guide will provide a programme of activities for students on a week by week basis. This will include, viewing pre-recorded teaching materials, and engaging with set problems. Sessions with students will include further illumination of challenging issues, design sessions, and design critiques.

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 Design highway and railway geometry according to a defined design speed, and for all types of highway user

MO2 Assess the strength and suitability of sub-grade for transport infrastructure

MO3 Specify appropriate materials for use in transport infrastructure

MO4 Understand the importance of controlling water in the vicinity of transport infrastructure

MO5 Conceive of transport design solutions and develop transport designs for open ended problems

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 114 hours

Face-to-face learning = 36 hours

Reading list: The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://uwe.rl.talis.com/modules/ubglx8-15-2.html) via the following link <https://uwe.rl.talis.com/modules/ubglx8-15-2.html>

Part 4: Assessment

Assessment strategy: The strategy is to develop skills in doing design calculations, and dealing with complex issues, with a series of online tests.

These skills will then build the capability to tackle an open ended transport design problem involving planning, feasibility, option development and selection (Portfolio).

Assessment tasks:

Portfolio (First Sit)

Description: Open ended transport design problem involving planning, feasibility, option development and selection requiring the submission of a portfolio including a design statements, tabulations of data, drawings and explanations of solutions.

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5

Online Assignment (First Sit)

Description: A series of online tests on transport engineering design requiring calculations and reference to relevant design guidance as well as demonstrating understanding of engineering principles with clarity and accuracy.

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4

Portfolio (Resit)

Description: Open ended transport design problem involving planning, feasibility, option development and selection requiring the submission of a portfolio including a design statements, tabulations of data, drawings and explanations of solutions.

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5

Online Assignment (Resit)

Description: A series of online tests on transport engineering design requiring calculations and reference to relevant design guidance as well as demonstrating understanding of engineering principles with clarity and accuracy.

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Civil Engineering {Foundation} [Frenchay] BEng (Hons) 2023-24

Civil Engineering {Apprenticeship-UWE} [Frenchay] BEng (Hons) 2023-24

Civil Engineering [Frenchay] - WITHDRAWN BEng (Hons) 2024-25

Civil Engineering [Frenchay] - WITHDRAWN MEng 2024-25

Civil Engineering {Foundation} [Frenchay] MEng 2023-24

Civil Engineering {Apprenticeship-UWE} [Frenchay] BEng (Hons) 2022-23

Civil Engineering [Frenchay] BEng (Hons) 2022-23

Civil Engineering [Frenchay] MEng 2022-23