# MODULE SPECIFICATION

| Part 1: Information | | | |
|---|---|---|---|
| Module Title | Transport Infrastructure Engineering | | |
| Module Code | UBGMFX-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 & Envrnmental Mgmt | | |
| 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:** The syllabus includes:

Identification of sources of information for design including specifications and standards, and site specific parameters

Feasibility studies and route alignment

Environmental impacts of transport infrastructure: calculation of road traffic noise

Principles of geometric design and interactions between vehicles and the infrastructure

Geometric design of highways and railways

Highway pavement design

Permanent way design

Geotechnical engineering relating to transport infrastructure

Dealing with water in relation to transport infrastructure

Materials characteristics and selection for transport infrastructure

Maintenance of transport infrastructure assets

**Teaching and Learning Methods:** Students will be required to investigate and develop proposals for the design of problems in transport infrastructure engineering relating to a number of modes.

This will require individual working, but with the opportunities for peer support and review and for formative feedback on their proposals via the tutor.

Scheduled learning includes lectures, seminars, tutorials, project supervision, demonstration, practical classes and workshops and external visits.

Independent learning includes hours engaged with essential reading, design study preparation, assignment preparation and completion etc.

Contact with students may be in one of two forms: a) weekly or bi-weekly basis across a single semester; b) two blocks of three days each. The learning will be made up of the following number of hours:

Directed contact learning: 36 hours

Independent Study: 36 hours

Assessment, including preparation: 78 hours

Total: 150 hours

**Part 3: Assessment**

The strategy of the assessments is to ensure that students have analytical capability in transport infrastructure engineering, and that they are able to design various transport infrastructure artefacts. Hence, the assessment is divided into two parts; and examination and a coursework which includes a variety of design scenarios.

Students will present a report evaluating a portfolio of design exercises, to be included in the appendices to the report. The exam will require them to apply design principles to the solution of a range of transport infrastructure problems. Students will be allowed to take in a transport data handbook that they have annotated throughout the course. They will be provided with other necessary design information in the examination.

| First Sit Components | **Final Assessment** | **Element weighting** | **Description** |
|---|---|---|---|
| Portfolio - Component B | ✓ | 50 % | Design portfolio (2000 words plus appendices) |
| Examination - Component A | | 50 % | Examination |
| Resit Components | **Final Assessment** | **Element weighting** | **Description** |
| Portfolio - Component B | ✓ | 50 % | Design portfolio (2000 words plus appendices) |
| Examination - Component A | | 50 % | Examination |

**Part 4: Teaching and Learning Methods**

Learning Outcomes

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

| Module Learning Outcomes | Reference |
|---|---|
| Apply design principles and standards to transport infrastructure geometric design problems | MO1 |
| Apply design principles and standards to transport infrastructure construction problems | MO2 |
| Evaluate environmental impact of transport infrastructure | MO3 |
| Synthesise specification and standards requirements and site conditions to identify and develop safe and sustainable options and final solutions for transport infrastructure design problems | MO4 |

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/ubgmfx-15-m.html

**Part 5: Contributes Towards**

This module contributes towards the following programmes of study:

Civil Engineering [Sep][PT][Frenchay][2yrs] MSc 2018-19