

**Module Information**

**2022.01, Approved**

**Summary Information**

Module Code	6201CIV
Formal Module Title	Infrastructure, Highways Design and Innovation
Owning School	Civil Engineering and Built Environment
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 6
Grading Schema	40

**Teaching Responsibility**

LJMU Schools involved in Delivery
Civil Engineering and Built Environment

**Learning Methods**

Learning Method Type	Hours
Lecture	44
Seminar	11
Workshop	11

**Module Offering(s)**

Display Name	Location	Start Month	Duration Number Duration Unit
SEP-CTY	CTY	September	12 Weeks

**Aims and Outcomes**

Aims	To develop understanding and knowledge of the role of infrastructure in supporting society, and the role of civil engineering in developing infrastructure. In particular students will develop further understanding of the design of roads and highway drainage. The module will study recent developments within the field of infrastructure, and students will develop an understanding of innovation and entrepreneurship through consideration of case studies.
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**After completing the module the student should be able to:**

### Learning Outcomes

Code	Number	Description
MLO1	1	Critically evaluate sustainable highway design
MLO2	2	Identify the performance of infrastructure as a system, and use a systems approach to improvement of current infrastructure
MLO3	3	Design and evaluate effective highway drainage systems
MLO4	4	Critically evaluate the process of innovation
MLO5	5	Produce an innovative design and appraise both its design and its potential use within civil engineering

### Module Content

Outline Syllabus	Develop knowledge and understanding of highway design Critical evaluation of case studies in highway design Design of road drainage Identification and classification of systems, and use of systems in understanding complex infrastructure. The process of innovation, and case studies of innovation Development of individual innovative ideas. Entrepreneurship
Module Overview	This module develops your understanding of highways and road drainage design, and develops a systems approach to infrastructure analysis. Recent developments in infrastructure design are considered and evaluated, developing your understanding of the process of innovation. You will develop understanding and knowledge of the role of infrastructure in supporting society, and the role of civil engineering in developing infrastructure. In particular, you will develop further understanding of the design of roads and highway drainage.
Additional Information	The module develops the students' understanding of highways and road drainage design, and develops a systems approach to infrastructure analysis. Recent developments in infrastructure design are considered and evaluated, developing students' understanding of the process of innovation. Where this module is part of a Degree Apprenticeship programme, the knowledge learning outcomes are K1 and K4, the skills learning outcomes are S1 and S5.

### Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Centralised Exam	Examination	70	2	MLO1, MLO2, MLO3, MLO4, MLO5
Report	INNOVATION REPORT <2000 WORDS	30	0	MLO2, MLO4, MLO5

### Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Stephen Wylie	Yes	N/A

**Partner Module Team**

Contact Name	Applies to all offerings	Offerings
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