

## Liverpool John Moores University

Title: INFRASTRUCTURE, HIGHWAYS DESIGN AND INNOVATION  
Status: Definitive  
Code: **6501CVQR** (127367)  
Version Start Date: 01-08-2021

Owning School/Faculty: Civil Engineering and Built Environment  
Teaching School/Faculty: Civil Engineering

Team	Leader
Steve Wylie	Y
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**Academic Level:** FHEQ6      **Credit Value:** 20      **Total Delivered Hours:** 68

**Total Learning Hours:** 200      **Private Study:** 132

### Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	44
Seminar	11
Workshop	11

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	EXAMINATION	70	2
Report	AS2	REPORT ON INNOVATION (<2000 WORDS)	30	

### 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.*

## **Learning Outcomes**

After completing the module the student should be able to:

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

## **Learning Outcomes of Assessments**

The assessment item list is assessed via the learning outcomes listed:

EXAMINATION	1	2	3	4	5
INNOVATION REPORT <2000 WORDS	2	4	5		

## **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*

## **Learning Activities**

Lectures, workshops, and seminars

## **Notes**

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.