

Liverpool John Moores University

Title: INFRASTRUCTURE ENGINEERING AND MANAGEMENT
Status: Definitive
Code: **6251BEUG** (125675)
Version Start Date: 01-08-2020

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

Team	Leader
Raj Shah	Y

Academic Level: FHEQ6 **Credit Value:** 20 **Total Delivered Hours:** 44
Total Learning Hours: 200 **Private Study:** 156

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	22
Workshop	22

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	Report 1	Industrial Scenario Based	50	
Report	Report 2	Software Based	50	

Aims

This module will introduce you to the principles of design and construction of various types of transport infrastructure and highways and allow you to develop the ability to specify problems and analyse alternative engineering solutions for transport infrastructures.

Learning Outcomes

After completing the module the student should be able to:

- 1 Critically evaluate and apply the design principles of transport infrastructure for different modes of transport including highways, railways, airports and ports.
- 2 Undertake modelling analysis and evaluate the results for a range of transport infrastructure scenarios with different design parameters
- 3 Evaluate the impact of construction methodology and practice to the delivery of transport infrastructure projects
- 4 Critically analyse information requirements for transport projects and develop a construction plan for a transport infrastructure project using appropriate tools and techniques.

Learning Outcomes of Assessments

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

Technical Report	1	3	4	
Software Based	1	2	3	4

Outline Syllabus

Introduction of transport infrastructure and impact on economy: Land, air and water.

Land transportation: Highways, railways and airports and development history

Highways design and construction: highways geometry, earthwork, pavement, drainage and highway furniture.

Airport design and construction: planning procedure, runway orientation, and runway length and layout design.

Port construction: basic design principles, and construction methodology.

Infrastructure specification: Drawings, detailing and specification.

Heavy construction plant and equipment for transport infrastructure

Learning Activities

Lectures and workshops. Interaction will be encouraged and guest lectures/industry scenarios will be used within the delivery and assessment.

Notes

This module will introduce students to the principles of design and construction of various types of civil and transport infrastructure. This module will also teach students to specify problems and analyse alternative engineering solutions for transport infrastructures. A comprehensive coursework based on a real scenario is the basis of assessment in this module, in which students will be involved with the design and construction practices of various types of infrastructures, including highway pavement, drainage, airport runways and port construction.