

Module Information

2022.01, Approved

Summary Information

Module Code	7506PGSL
Formal Module Title	Design and Construction of Transport Infrastructure
Owning School	Civil Engineering and Built Environment
Career	Postgraduate Taught
Credits	20
Academic level	FHEQ Level 7
Grading Schema	50

Teaching Responsibility

LJMU Schools involved in Delivery
LJMU Partner Taught

Partner Teaching Institution

Institution Name
International College of Business and Technology

Learning Methods

Learning Method Type	Hours
Lecture	36
Practical	6
Tutorial	24

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
JAN-PAR	PAR	January	12 Weeks

Aims and Outcomes

Aims	The module will enable students to design and manage transport infrastructure, including rail, airports, ports, roads and road drainage. Students will develop evaluative skills with regard to choice of transport infrastructure and construction management, and be able to design integrated transport systems.
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After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Evaluate and apply the design principles of transport infrastructure for different modes of transport including highways, railways, airports and ports.
MLO2	2	Undertake modelling analysis and evaluate the results for a range of transport infrastructure scenarios.
MLO3	3	Evaluate the impact of construction methodology and practice to the delivery of transport infrastructure projects.
MLO4	4	Analyse information requirements for transport projects and develop a construction plan for a transport infrastructure project using appropriate tools and techniques.
MLO5	5	Design and critically evaluate an integrated transport project.

Module Content

Outline Syllabus	Critical evaluation of transport infrastructure and its importance in national economy Land, air and water transportation systems. Land transportation: Highways, railways and airports. Transport infrastructure developments. Current development programmes and design concept. General considerations of highway drainage systems. Types of drainage structures. Design and construction of surface drainage and sub-soil drainage. Railway development. Railway capacity. Railway alignment. Rail joints and ballast. Airport activity systems. Airport planning procedure, runway orientation, and runway length and layout design. Port construction: basic design principles, and construction methodology. Infrastructure specification: Drawings, detailing and specification. Methods and control of construction: Construction process, plant and equipment. Field data collection exercises will be undertaken and case studies will augment this module.
Module Overview	
Additional Information	This module will introduce students to the principles of design and construction of various types of transport infrastructure. This module will also teach students to specify problems and analyse alternative engineering solutions for transport infrastructures.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Exam	Examination	60	2	MLO1, MLO2, MLO3, MLO4, MLO5
Report	Report	40	0	MLO1, MLO2, MLO3, 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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