

## Liverpool John Moores University

Title: RAIL TRANSPORT OPERATIONS  
Status: Definitive  
Code: **5033MAR** (106030)  
Version Start Date: 01-08-2016

Owning School/Faculty: Maritime and Mechanical Engineering  
Teaching School/Faculty: Maritime and Mechanical Engineering

Team	Leader
Charles Roberts	Y

**Academic Level:** FHEQ5      **Credit Value:** 12      **Total Delivered Hours:** 38  
**Total Learning Hours:** 120      **Private Study:** 82

### Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	18
Tutorial	18

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	Examination (3 questions from 5)	60	2
Essay	AS2	Coursework 1	20	
Essay	AS3	Coursework 2	20	

### Aims

*To introduce students to the theory and practice of rail freight and passenger transport systems. To provide an understanding of the technical and financial development of railways, their organisation and management.*

## Learning Outcomes

After completing the module the student should be able to:

- 1 Demonstrate an awareness of the technical constraints within which rail transport operates.
- 2 Show a clear understanding of the organisational frameworks of railway systems worldwide and be able to examine the issues related to each.
- 3 Analyse the market for rail passenger services in the context of the overall passenger transport market
- 4 Analyse the market for rail freight services in the context of the overall freight transport market
- 5 Review the contribution of metro and light rail systems to urban transport.
- 6 Examine public policy toward the rail sector.

## Learning Outcomes of Assessments

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

EXAM	1	2	3	4	5	6
CW	3					
CW	4					

## Outline Syllabus

*Characteristics of rail transport. Route network, permanent way. Track and loading gauges. Signalling and other safety systems. Track capacity and its constraints. Investment in new infrastructure.*

*Organisational framework. Track authority, train operators and support businesses. Open access, with particular reference to EU Directive 91/440. Subsidy and other government support.*

*Locomotives, passenger carriages, multiple units and freight wagons. Design issues relating to technology, safety and customer service.*

*Passenger operations. Commuter services, long distance national and international services. The market for leisure travel. Marketing, market segmentation and fares policy. High speed passenger services.*

*Freight operations. Wagonload, trainload and intermodal traffic.*

*Light rail and metro systems in urban areas.*

## Learning Activities

A programme of lectures and associated tutorials.

## Notes

This module examines rail transport systems from operational, management and economic perspectives. Recent and pending developments are discussed in detail and students are expected to apply the principles to case study examples.