

## Liverpool John Moores University

Title: Rail Risk Management  
Status: Definitive  
Code: **7569RTC** (120402)  
Version Start Date: 01-08-2019

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

Team	Leader
Alan Wall	Y

**Academic Level:** FHEQ7      **Credit Value:** 10      **Total Delivered Hours:** 16.5  
**Total Learning Hours:** 100      **Private Study:** 83.5

### Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	8
Online	.5
Tutorial	8

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Essay	AS1	An essay question comprising several component parts, based around a case study, up to 4,000 words long.	95	
Test	AS2	Individual and group activities e. g. quiz, forum	5	

### Aims

*To introduce the concept of risk management and its application to the rail industry. The specific risks associated with railway activities are covered, including track, rolling stock and signalling. Approaches to identifying, assessing and managing*

*these risks are introduced.*

## **Learning Outcomes**

After completing the module the student should be able to:

- 1 Demonstrate an understanding of railway activities and the associated risks
- 2 Deconstruct the risk management process into its constituent components and justify its relevance to the rail industry.
- 3 Examine railway legislation and its impact upon operations.

## **Learning Outcomes of Assessments**

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

4000 word essay	1	2	3
Individual and group work	1	2	3

## **Outline Syllabus**

*Aims and introductions*

*Overview of railway activities*

*Overview of risk, hazards and consequences in rail industry*

*Overview of railway regulatory regimes*

*Rail accidents and their causes*

*The risk management process*

*Identifying and assessing railway hazards and risks*

*Hazard Checklists*

*FMECA*

*HAZOP Study*

*Risk Matrix*

*Human Error Analysis*

*Fault and Event Tree Analysis*

*Bowtie Analysis*

*Maintenance and Operability Studies*

*Risk Registers/Hazard Logs*

*Auditing*

*Summary*

## **Learning Activities**

A combination of lectures, exercises and supported self study.

## **Notes**

Assessment is in the form of an essay combined with activities (e.g. exercises,

discussions, etc.). The delivery modes for the module elements are explained below.

Lecture (using slides and notes): will be delivered by classroom based teacher (face to face) or online self-study (distance learning) or mixture of the two (blended learning).

Tutorial/Activities (exercises and reviews): will be delivered by classroom based teacher (face to face) or online activities with teacher feedback/virtual classroom (distance learning) or mixture of the two (blended learning).

Tutor supported online: will be delivered by email support prior to assessment submission (face to face) or tutor feedback activities, virtual classrooms and email support (distance learning) or mixture of the two (blended learning).