

Liverpool John Moores University

Title: Rail Safety Analysis
Status: Definitive
Code: **7570RTC** (120403)
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 enable students to understand and implement the requirements of formal safety assessment in the rail industry.

Learning Outcomes

After completing the module the student should be able to:

- 1 Illustrate how rail safety may be controlled
- 2 Apply techniques to evaluate safety of the rail environment from both design and operation aspects
- 3 Generate a quantitative and/or qualitative rail formal safety assessment

Learning Outcomes of Assessments

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

4000 words essay	2	3
Individual and group work	1	

Outline Syllabus

Introduction to safety and risk

Risk and safety regulations in rail engineering

Hazard identification techniques

Historical data

Potential escalation events, e.g. speed, derailment

Human factors and safety management

Organisational responsibilities

Risk reduction and criteria

Novel risk modelling and decision making techniques

Learning Activities

A combination of lectures, exercises and supported self study.

Notes

The aim of this module is to enable students to understand and implement the requirements of formal safety assessment in the rail industry.

This involves an introduction to safety and risk and an overview of the risk and safety

regulations in rail engineering. Potential escalation events and human factors and safety management will be discussed. Organisational responsibilities, risk criteria, risk modelling, risk reduction and decision making techniques also form part of the module.

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).