

## Liverpool John Moores University

Title: RAIL SAFETY ANALYSIS  
Status: Definitive  
Code: **7506ENGRSK** (113871)  
Version Start Date: 01-08-2019

Owning School/Faculty: Engineering  
Teaching School/Faculty: Risktec Solutions

Team	Leader
Alan Wall	

**Academic Level:** FHEQ7      **Credit Value:** 10      **Total Delivered Hours:** 16  
**Total Learning Hours:** 100      **Private Study:** 84

### Delivery Options

Course typically offered: Runs Twice - S1 & S2

Component	Contact Hours
Lecture	8
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, typically 2,000 words long.	50	
Report	AS2	Formal safety assessment report, typically 2,000 words.	50	

### 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:

Essay question in parts	1	2
Safety assessment	3	

## Outline Syllabus

- *Introduction to safety and risk*
- *Risk and safety regulations in rail engineering*
- *Hazard identification techniques (more detail in HAZID module))*
- *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, group exercises and individual exercises

## 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 reduction and criteria and risk modelling and decision making techniques also form part of the module.

The assessment for the module is a combination of essay and technical report.