

## Liverpool John Moores University

Title: Incident Investigation and Analysis  
Status: Definitive  
Code: **7556RTC** (120389)  
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 give students an awareness and understanding of incident investigation and analysis.*

## Learning Outcomes

After completing the module the student should be able to:

- 1 Critically review the advantages and disadvantages of carrying out incident investigation and analysis
- 2 Demonstrate a thorough grounding in the underlying theories behind accident cause analysis
- 3 Apply a six step investigation and analysis process to determine the sequence of events and the causes of an incident.
- 4 Critically analyse published incident and accident reports including the recommendations.

## Learning Outcomes of Assessments

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

|                           |   |   |   |
|---------------------------|---|---|---|
| 4000 word essay           | 1 | 2 | 4 |
| Individual and group work | 3 |   |   |

## Outline Syllabus

### *Introduction*

*Why we investigate accidents*

*An overview of the incident investigation process*

*Accident cause investigation theory and the concept of immediate, underlying and root causes*

### *Immediate actions in the event of an accident*

*Emergency response / make the area safe*

*Secure the scene / preserve the evidence*

*Information management*

### *Initiating the investigation*

*How to determine the extent of the investigation and set Terms of Reference*

*Appointing the investigation team – roles, responsibilities*

*Planning the investigation team activities*

### *Collecting data*

*Types of data / information available*

*Interviews and witness statements*

*Human Factors*

### *Organising and analysis the data*

*Defining what happened (the timeline)*

*Identifying why things happened (the analysis)*

*Understanding immediate, underlying and root causes*

### *Corrective and preventive actions*

*Address each cause to eliminate or reduce consequences*

*Failed barriers before restart*

### *Reporting*

*Recommendations*

*Report contents*  
*Learning from incidents*  
*Module conclusions and close out*

## **Learning Activities**

A combination of lectures, exercises and supported self study.

## **Notes**

The main aim of this module is to give students an awareness and understanding of incident investigation and analysis. This includes looking at why we need to investigate incidents.

The stages of incident investigation are discussed: immediate actions in the event of an incident; initiating the investigation; collecting, organising and analysing data; identifying corrective and preventive actions; reporting the incident and learning from it. The module involves a significant amount of practical exercises.

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).