

Liverpool John Moores University

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Title: Accident Investigation and Analysis
Status: Definitive
Code: **7539ENGRSK** (119442)
Version Start Date: 01-08-2011

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

Team	Leader
Alan Wall	

Academic Level: FHEQ7
Credit Value: 10.00
Total Delivered Hours: 16.50
Total Learning Hours: 100
Private Study: 83

Delivery Options

Course typically offered: Runs Twice - S1 & S2

Component	Contact Hours
Lecture	6.000
Online	0.500
Tutorial	10.000

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Essay	case study		75.0	
Report	report		25.0	

Aims

To give students an awareness and understanding of accident investigation and analysis.

Learning Outcomes

After completing the module the student should be able to:

- LO1 Critically review the advantages and disadvantages of carrying out accident investigation and analysis
- LO2 Demonstrate a thorough grounding in the underlying theories behind accident cause analysis
- LO3 Generate an incident report
- LO4 Critique published incident and accident reports including the recommendations

Learning Outcomes of Assessments

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

Case study	LO 1	LO 2	LO 4
Incident report	LO 3		

Outline Syllabus

Introduction

- * *An understanding of why we investigate accidents*
- * *An overview of the accident investigation process*
- * *An introduction to 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*

Planning 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*

Data organisation / analysis

- * *Defining what happened (the timeline)*
- * *Identifying why things happened (the analysis)*
- * *Understanding immediate, underlying and root causes*

Concluding the analysis

- * *Recommendations and Actions*
- * *Reporting your findings*

Module conclusions and close out

Learning Activities

A combination of lectures, exercises during the taught session, and supported self study.

References

Course Material	Book
Author	HSE
Publishing Year	
Title	Investigating Accidents and Incidents
Subtitle	
Edition	
Publisher	HSG 245 http://www.hsebooks.com/books.htm
ISBN	0717628272

Course Material	Book
Author	HMSO
Publishing Year	1990
Title	The Public Inquiry into the Piper Alpha Disaster
Subtitle	
Edition	
Publisher	HMSO
ISBN	0-10 113102

Course Material	Book
Author	Elsevier Butterworth – Heinemann
Publishing Year	2001
Title	Learning from Accidents
Subtitle	
Edition	3rd
Publisher	Elsevier Butterworth – Heinemann
ISBN	0-7506-4883-X

Course Material	Book
Author	Vincoli J.W.
Publishing Year	1994
Title	Basic Guide to Accident Investigation and Loss Control
Subtitle	
Edition	
Publisher	John Wiley and Sons
ISBN	0-471-28630-3

Course Material	Book
Author	Dekker S.
Publishing Year	2007

Title	Just Culture: Balancing Safety and Accountability
Subtitle	
Edition	
Publisher	Ashgate Publishing Limited
ISBN	978-0-7546-7267-8

Course Material	Book
Author	Reason J.
Publishing Year	2008
Title	The Human Contribution: Unsafe Acts, Accidents and Heroic Recoveries
Subtitle	
Edition	
Publisher	Ashgate Publishing Limited
ISBN	978-0-7546-7402-3

Course Material	Book
Author	Hyatt N.
Publishing Year	2006
Title	Incident Investigation and Accident Prevention in the Process and Allied Industries
Subtitle	
Edition	
Publisher	CRC Press
ISBN	0-8493-0778-3

Notes

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

The stages of accident investigation are discussed, such as: immediate actions in the event of an accident, planning the investigation, collecting data, data organisation and analysis and concluding the analysis. The taught part of the module involves a significant amount of practical exercises (tutorials).

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