

Liverpool John Moores University

Title: FAULT TREE & EVENT TREE ANALYSIS
Status: Definitive
Code: **7515ENGRSK** (113880)
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
Total Learning Hours: 100 **Private Study:** 84

Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	6
Tutorial	10

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1	Coursework Case Study – Approx 2000-3000 words - will include calculations / spreadsheets	100	

Aims

To enable students to understand the principles of fault and event tree analysis and to perform their own assessments

Learning Outcomes

After completing the module the student should be able to:

- 1 Design and analyse Fault Tree models incorporating appropriate reliability data for components, human error and common cause / common mode failures
- 2 Generate and analyse Event Tree models

Learning Outcomes of Assessments

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

case study	1	2
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Outline Syllabus

- *Introduction to Fault and Event Trees*
- *Basic Probability Theory*
- *Fault Tree Model Development.*
- *Reliability Data for Fault Trees*
- *Common Cause / Common Mode Failures*
- *Fault Tree Analysis*
- *Event Tree Model Development*
- *Event Tree Analysis*

Learning Activities

By a combination of lectures and group and individual exercises

Notes

The aim of this module is to enable students to understand the principles of fault and event tree analysis and to perform their own assessments. The module will look at basic probability theory, the development of the fault tree and event tree model, reliability data for fault trees and fault and event tree analysis.

The assessment for this module is a case study.