

Liverpool John Moores University

Title: Process Hazard Analysis
Status: Definitive
Code: **7566RTC** (120399)
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

Covers practical methods for performing process hazard analyses (PHAs) of systems and procedures, using hazard and operability (HAZOP) and what-if/checklists, among other techniques.

Learning Outcomes

After completing the module the student should be able to:

- 1 Assess the documentation required for an effective PHA
- 2 Critique the most appropriate technique for the PHA
- 3 Analyse the process for PHA
- 4 Generate a report documenting the findings from the PHA

Learning Outcomes of Assessments

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

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

Outline Syllabus

Process safety management and risk assessment concepts

Using the risk ranking matrix

What-if/checklist technique

HAZOP technique

Difference between HAZOP / What-if? / Checklist and how to choose the appropriate methodology

Analysis preparation, meetings, documentation and follow-up

Understand how the LOPA technique can assist in the determination of the suitability of safeguards Common failings in PHAs

Human factors concepts

PHA for analyzing procedures and batch processes

Roles and responsibilities of team and team members

What comprises a good recommendation?

PHA revalidation

Learning Activities

A combination of lectures, exercises and supported self study.

Notes

Comprehensive hazard identification is the cornerstone of effective risk management. This course covers practical methods for performing process hazard analyses (PHAs) of systems and procedures, using the hazard and operability (HAZOP) and what-if/checklist techniques. It teaches participants the methods used to identify hazard potential and their consequences when plant/equipment operates outside its design intent.

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).