

## Liverpool John Moores University

Title: BOWTIE ANALYSIS  
Status: Definitive  
Code: **7518RSKDL** (118775)  
Version Start Date: 01-08-2019

Owning School/Faculty: Maritime and Mechanical Engineering  
Teaching School/Faculty: Maritime and Mechanical Engineering

Team	Leader
Zaili Yang	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: Runs Twice - S1 & S2

Component	Contact Hours
Lecture	8
Online	.5
Tutorial	8

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Essay	Essay		95	
Reflection	Test&refl		5	

### Aims

*To build on the introduction of the bow-tie methodology given in the previous module Introduction to Practical Risk Management. To critically review its practical uses and benefits, with hands-on practice at using the technique.*

### Learning Outcomes

After completing the module the student should be able to:

- 1 Deconstruct the various components of a bowtie diagram
- 2 Analyse hazard scenarios by applying the bowtie method and designing a bowtie diagram
- 3 Devise HSE critical tasks to support the bowtie diagram and logically deduce the HSE-critical equipment / elements

### **Learning Outcomes of Assessments**

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

Essay	2	3
Online test & Reflection	1	

### **Outline Syllabus**

1. *Introduction to risk assessment and bowtie theory*
2. *The bowtie method – how to build a bowtie*
3. *HSE-critical activities and tasks*
4. *HSE-critical elements*
5. *Acceptance criteria and ALARP*
6. *Practical uses of bowties*
7. *Bowtie software tools*

### **Learning Activities**

A combination of slides and notes, exercises, discussions, interactive web activities and supported self study.

### **Notes**

This module introduces bow-tie methodology and examines in detail the various bowtie analysis components. The module also provides a critical review of the method's practical uses, with hands-on practice at applying the technique. The assessment for this module is an essay combined with online activities (e.g. tests, discussions, etc.).