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## MODULE DESCRIPTOR

### Module Title

Integrity and Reliability Management

Reference	ENM308	Version	9
Created	January 2018	SCQF Level	SCQF 11
Approved	December 2007	SCQF Points	15
Amended	June 2020	ECTS Points	7.5

### Aims of Module

Use and develop strategies for optimum asset integrity and reliability management.

### Learning Outcomes for Module

On completion of this module, students are expected to be able to:

- 1 Demonstrate an awareness and understanding of the (UK) legal framework governing integrity through the life cycle.
- 2 Describe and implement the models and structured business processes for Reliability and Integrity needed to achieve safe and sustainable profitability.
- 3 Critically analyse how organisation cultures & aspects of human behaviour affect reliability, integrity and process safety.
- 4 Demonstrate an understanding of behaviour to influence culture, individual and team behaviours to reduce error.
- 5 Drive improvements in reliability, integrity and process safety performance by effective choice and use of performance indicators.

### Indicative Module Content

- ASSET INTEGRITY MANAGEMENT STRATEGIES Asset Integrity Management Cycle Identification of business risks and developing strategies to manage these. Managing Error Driving improvements in reliability and integrity using performance indicators. Decommissioning - HUMAN FACTORS Theories of Reason, Rasmussen, Janis, Kletz, Adair, Covey. Communication Groupthink Motivation - TOOLS & TECHNIQUES Risk based techniques for work identification (RCM, RBI, SIS) Matrix techniques for identifying Priority/Criticality Event Escalation Model Swiss-Cheese Model Bow-Tie Model Planning & scheduling Elimination of failures (RCA)

### Module Delivery

DISTANCE LEARNING: The module is delivered by online lectures, interactive forum discussions and directed self-study.

**Indicative Student Workload**

	Full Time	Part Time
Contact Hours	N/A	23
Non-Contact Hours	N/A	127
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	N/A	150
Actual Placement hours for professional, statutory or regulatory body		

**ASSESSMENT PLAN**

If a major/minor model is used and box is ticked, % weightings below are indicative only.

**Component 1**

Type:	Coursework	Weighting:	50%	Outcomes Assessed:	1, 2
Description:	Consists of a real life case study used as a vehicle for scrutinising a business and integrity deficiencies.				

**Component 2**

Type:	Examination	Weighting:	50%	Outcomes Assessed:	3, 4, 5
Description:	The examination is closed book.				

**MODULE PERFORMANCE DESCRIPTOR****Explanatory Text**

In order to pass the module, students should achieve a mark of at least 40% in each component (which has a weighting of 30% or more) and an overall grade of D or greater.

Module Grade	Minimum Requirements to achieve Module Grade:
<b>A</b>	Greater than or equal to 70%
<b>B</b>	In the range 60% to 69%
<b>C</b>	In the range 55% to 59%
<b>D</b>	In the range 50% to 54%
<b>E</b>	In the range 40% to 49%
<b>F</b>	Less than 40%
<b>NS</b>	Non-submission of work by published deadline or non-attendance for examination

**Module Requirements**

Prerequisites for Module	Normally a UK honours degree, or equivalent, in Engineering or related discipline at class 2.2 or above and proficiency in English language for academic purposes (IELTS minimum score of 6.5 or equivalent).
Corequisites for module	None.
Precluded Modules	None.

**INDICATIVE BIBLIOGRAPHY**

- 1 Reason J.T., 2013. A life in error: from little slips to big disasters.
- 2 INSTITUTE OF ASSET MANAGEMENT, An Anatomy of Asset Management
- 3 The Report of the BP US Refineries Independent Safety Review Panel (Baker Panel Report) 2007
- 4 The Public Inquiry into the Piper Alpha Disaster Great Britain 1990