

MODULE DESCRIPTOR

Module Title

Integrity and Reliability Management

| | | | |
|-----------|---------------|-------------|---------|
| Reference | ENM308 | Version | 10 |
| Created | August 2021 | SCQF Level | SCQF 11 |
| Approved | December 2007 | SCQF Points | 15 |
| Amended | August 2021 | 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 and 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: | Case study. | | | | |

Component 2

| | | | | | |
|--------------|--------------------------|------------|-----|--------------------|---------|
| Type: | Examination | Weighting: | 50% | Outcomes Assessed: | 3, 4, 5 |
| Description: | Closed book examination. | | | | |

MODULE PERFORMANCE DESCRIPTOR**Explanatory Text**

The module has 2 components and an overall grade D is required to pass the module. The component weighting is as follows: C1 is worth 50% and C2 is worth 50%.

| | | Examination: | | | | | | |
|-------------|---|--|---|---|---|---|---|----|
| | | A | B | C | D | E | F | NS |
| Coursework: | A | A | A | B | B | C | E | |
| | B | A | B | B | C | C | E | |
| | C | B | B | C | C | D | E | |
| | D | B | C | C | D | D | E | |
| | E | C | C | D | D | E | E | |
| | F | E | E | E | E | E | F | |
| NS | | Non-submission of work by published deadline or non-attendance for examination | | | | | | |

Module Requirements

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|--------------------------|---|
| 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