Liverpool John Moores University

Title:	Environmental Risk Assessment
Status:	Definitive
Code:	**7549RTC** (120382)
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

To give students a comprehensive understanding of approaches to environmental risk assessment.

Learning Outcomes

After completing the module the student should be able to:

1   Critique environmental regulatory styles
2   Discuss and illustrate the similarities and differences between environmental and safety risk assessments
3   Evaluate methods and models available for environmental consequence modelling.

Learning Outcomes of Assessments

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

4000 word essay   2   3

Individual and group work   1

Outline Syllabus

Introduction and Background
How environmental risk assessments lagged behind (and somewhat independently) of safety assessments
    Key players (individuals and organisations)
    Key milestones (political and social)
    Key UK legislative drivers
Risk (definitions, consequences, probabilities, criteria, F-N)
    With emphasis on environmental risks but comparing with safety approaches
Risk assessment process (why things go wrong? how badly? when? what next?)
    Generic approaches (common with safety hazard identification)
    Extension of generic approaches to the assessment of environmental risks
Environmental Risk Assessments
    Hazard identification
    Environmental data , targets and criteria (what should / could be used, where can the information be found)
    Environmental Consequence Models
        o Air dispersion
        o Water dispersion
        o Ground / groundwater modelling
 Role of Environmental Risk Assessment in Decision making process
    Areas of application ... EIA, BAT, BPEO, BPM, land-use planning etc.
    Discussion of problematic technical areas (data, models, criteria)
    Role of technical information in the decision making process (dealing with uncertainty, various stakeholders, role of value judgements in our understanding / perception of risk
Module conclusions and close out

Learning Activities

A combination of lectures, exercises and supported self study.

Notes

The main aim of this module is to give students an awareness and understanding of environmental risk assessment. It covers some of the main areas where students might encounter the need to undertake an environmental risk assessment and how approaches to undertaking an environmental risk assessment compare with safety risk assessments.

Some of the ways in which environmental consequences are assessed will be considered, allowing students to judge the appropriateness or otherwise of some commonly encountered models.

Emphasis will be on UK approaches and applications but comparison will be drawn with international approaches and best practice.

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).