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Title: ENVIRONMENTAL MANAGEMENT  
Status: Definitive  
Code: **7046PG** (102380)  
Version Start Date: 01-08-2016  
  
Owning School/Faculty: Civil Engineering  
Teaching School/Faculty: Civil Engineering

Team	Leader
Felicite Ruddock	Y

**Academic Level:** FHEQ7      **Credit Value:** 15      **Total Delivered Hours:** 43  
**Total Learning Hours:** 150      **Private Study:** 107

### Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	10
Seminar	30

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	closed book	40	3
Report	AS2	assignment 1	30	
Report	AS3	assignment 2	30	

### Aims

*This module critically examines the key assessment and audit procedures used to evaluate projects impacting on the environment in the context of the wider economic framework, the regulatory regime and customer protection issues. It develops and applies the skills of financial analysis and priority ranking of schemes and the*

*gathering, modelling and interpretation of the quality and environmental data underpinning all these processes. Its principal aims are:*

- 1. To facilitate an understanding of environmental assessment and audit procedures as a practical forerunner to the strategic planning of facilities or improvements.*
- 2. To understand the wider impact of environmental policy and regulation in environmental planning at the macro- and micro- levels, including the financial assessment of different strategies and the assignment of priorities.*
- 3. To understand the basis for the design and interpretation of sampling programmes, environmental modelling and the critical appraisal of environmental data.*

## **Learning Outcomes**

After completing the module the student should be able to:

- 1 Interpret environmental data and Understand the basis of sound sampling, analysis and modelling and their importance to the decision making process.
- 2 Design and undertake aspects of an environmental audit of their own, or other, organisation.
- 3 Undertake an appraisal of a multi-option project involving a range of investment and operational options and make judgements on priority taking into account cost and environmental considerations.
- 4 Develop critical awareness of own learning through reflection.
- 5 Locate, and critically analyse, relevant material from journals and other sources.

## **Learning Outcomes of Assessments**

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

EXAM	1	2	3
ASSIGNMENT 1	1	2	3
ASSIGNMENT 2	4	5	

## **Outline Syllabus**

- 1. The nature of the environmental assessment process, the legislative framework and statutory requirements, assessment methodologies including a detailed consideration of the process with reference to case studies involving complex engineering projects.*
- 2. The types of environmental audit with sample case studies involving contaminated land, industrial premises, waste disposal sites, sewer outfalls to marine waters and industrial development.*
- 3. Environmental cost-benefit analysis, risk assessment, the development of priorities for environmental improvement and the techniques for revenue and capital project evaluation.*
- 4. Control of pollution through economic means; waste generation and the concept of optimal pollution; Pigovian taxes and the costing of environmental damage;*

*pollution control policies in mixed economies; the use of progressive tariffs.*

- 5. Economic regulation of the water industry; the role of OFWAT in England and Wales, the role of the government departments in Scotland and Northern Ireland; relationships with environmental and drinking water quality regulators.*
- 6. Manipulation of analytical data, volumes and retention periods.*
- 7. The statistical basis for the design of sampling programmes, the setting of emission standards, and the assessment of standards of compliance for air, water and land, including the interpretation of results and the presentation of data.*

## **Learning Activities**

Lectures and seminars.

## **Notes**

This module builds the skills underlying the audit, assessment and planning of facilities and improvements which impact on the environment. The analytical, technical and financial skills developed are essential to the analysis of specific issues in later modules, as is the consideration of the wider economic policy and regulation issues.