

## MODULE DESCRIPTOR

### Module Title

Environmental Engineering 1

Reference	EN3590	Version	3
Created	May 2017	SCQF Level	SCQF 9
Approved	March 2004	SCQF Points	15
Amended	May 2017	ECTS Points	7.5

### Aims of Module

To provide the student with an appreciation of factors that contribute to water pollution and the means through which it can be controlled.

### Learning Outcomes for Module

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

- 1 Recognise and discuss industry's legal requirements in terms of wastewater pollutants within the UK and Europe.
- 2 Describe effluent discharge and dispersion in terms of fluid dynamics.
- 3 Describe methods of water pollution control, including process selection, recycling, and ultimate disposal of residual wastes.
- 4 Select methods for controlling water pollution for specific industrial applications.

### Indicative Module Content

Water pollution control legislation: clean water act. Effluent discharge. Water pollution control: wastewater treatment, water reuse, ultimate disposal. Process selection and installation design.

### Module Delivery

This module is a lecture-based module with tutorials, directed self-study, laboratory work and private study.

### Indicative Student Workload

	Full Time	Part Time
Contact Hours	45	45
Non-Contact Hours	105	105
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	150
<i>Actual Placement hours for professional, statutory or regulatory body</i>		

**ASSESSMENT PLAN**

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

**Component 1**

Type: Coursework      Weighting: 30%      Outcomes Assessed: 4  
 Description: Selection of case study material and its presentation in the form of a report.

**Component 2**

Type: Examination      Weighting: 70%      Outcomes Assessed: 1, 2, 3  
 Description: Closed book examination.

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

To pass the module, you must achieve a 40% weighted average mark from the exam and coursework. In addition you need to achieve at least 35% in both the individual exam and coursework components.

Module Grade	Minimum Requirements to achieve Module Grade:
<b>A</b>	=>70%
<b>B</b>	60-69%
<b>C</b>	50-59%
<b>D</b>	40-49%
<b>E</b>	35-39%
<b>F</b>	0-34%
<b>NS</b>	Non-submission of work by published deadline or non-attendance for examination

**Module Requirements**

Prerequisites for Module	Mathematics 2 (CM2901) and Thermofluids 2 (EN2702) or their equivalent.
Corequisites for module	None.
Precluded Modules	None.

**INDICATIVE BIBLIOGRAPHY**

- 1 KIELY, G., 1998. Environmental Engineering. 2nd ed. Boston, MA: McGraw-Hill.
- 2 WEINER, R.F., 2003. Environmental Engineering. 4th Ed. Oxford, Butterworth-Heinemann
- 3 MURALI, K.I.V. & VALLI M., 2017. Environmental Management: Science and Engineering for Industry. Oxford. Butterworth-Heinemann