

**University of the West of Scotland
Module Descriptor**

Session: 2023/24

Title of Module: Pollution Control			
Code: CEWM11006	SCQF Level: 11 (Scottish Credit and Qualifications Framework)	Credit Points: 20	ECTS: 10 (European Credit Transfer Scheme)
School:	School of Computing, Engineering and Physical Sciences		
Module Co-ordinator:	Iain McLellan		
Summary of Module			
<p>Human activities result in the release of pollutants to the environment and this module investigates the different pollution control mechanisms available to regulators and industries. This will include the management of landfills, contaminated land, air pollution and other emissions. Within each pollutant source, the relevant legislation will be highlighted, as well as the tools available to identify, investigate and remediate pollution. There will be a focus on hazards, waste cycle, pollutant mobility and their environmental fate.</p> <p>This module provides students with an advanced view of sustainable pollution control, waste treatment technologies and wastewater issues and treatment and is an essential component for environmental professionals. They will gain an understanding of the realities of the physical and technical elements of pollution control and waste management, which could be beneficial for the MSc dissertation and future employment.</p> <p>On completion of this module you will gain the following Graduate Attributes:</p> <ul style="list-style-type: none"> • Critical thinking by working collaboratively with colleagues on research-minded assignments • Problem solving and effective communication • Your research will be innovative and creative producing resilient solutions to our environmental challenges. 			

Module Delivery Method					
Face-To-Face	Blended	Fully Online	HybridC	HybridO	Work-based Learning
			✓		
<p>Face-To-Face Term used to describe the traditional classroom environment where the students and the lecturer meet synchronously in the same room for the whole provision.</p> <p>Blended A mode of delivery of a module or a programme that involves online and face-to-face delivery of learning, teaching and assessment activities, student support and feedback. A programme may be considered "blended" if it includes a combination of face-to-face, online and blended modules. If an online programme has any compulsory face-to-face and campus elements it must be described as blended with clearly articulated delivery information to manage student expectations</p> <p>Fully Online Instruction that is solely delivered by web-based or internet-based technologies. This term is used to describe the previously used terms distance learning and e learning.</p> <p>HybridC Online with mandatory face-to-face learning on Campus</p> <p>HybridO Online with optional face-to-face learning on Campus</p> <p>Work-based Learning Learning activities where the main location for the learning experience is in the workplace.</p>					

Campus(es) for Module Delivery						
The module will normally be offered on the following campuses / or by Distance/Online Learning: (Provided viable student numbers permit)						
Paisley:	Ayr:	Dumfries:	Lanarkshire:	London:	Distance/Online Learning:	Other:
✓						

Term(s) for Module Delivery					
(Provided viable student numbers permit).					
Term 1		Term 2	✓	Term 3	

Learning Outcomes: (maximum of 5 statements)	
<p>On successful completion of this module the student will be able to:</p> <p>L1. Have a detailed and critical knowledge of methods of controlling and disposing of domestic and industrial wastes, including emerging technologies</p> <p>L2. Incorporate pollution control techniques into the management of air, land and water, with links to sustainable resource management</p> <p>L3. Integrate planning issues of facility site selection with the selection of appropriate technologies for control of pollution from any type of waste handling facility</p>	
Employability Skills and Personal Development Planning (PDP) Skills	
SCQF Headings	During completion of this module, there will be an opportunity to achieve core skills in:
Knowledge and Understanding (K and U)	<p>SCQF Level 11.</p> <p>Gain a critical understanding of the range and variety of pollution control techniques, with particular reference to industrial settings that deal with wastes</p> <p>Evaluate the effectiveness of waste treatment techniques.</p>
Practice: Applied Knowledge and Understanding	<p>SCQF Level 11.</p> <p>Identify waste management/treatment/disposal options with particular regard to new technologies.</p> <p>Evaluate information and gain a coherent understanding of theories and practices in implementing a range of techniques for pollution control and the remediation of contaminated land.</p>
Generic Cognitive skills	<p>SCQF Level 11.</p> <p>Develop and demonstrate an ability to communicate effectively in a variety of professional settings and provide clear guidance on appropriate techniques for pollution control as it applies to waste management sites and facilities.</p> <p>Demonstrate an understanding of an issue and develop a solution to a potential pollution problem.</p>

Communication, ICT and Numeracy Skills	<p>SCQF Level 11. Gain a full understanding of the process of preparing oral and written reports, using IT.</p> <p>Communicate pollution control options in a professional setting.</p>	
Autonomy, Accountability and Working with others	<p>SCQF Level 11. Work as part of a professional team to analyse information from an air, water or land pollution situation, formulate a solution and present it back to the group.</p> <p>Work independently to develop a plan to manage a specific pollution issue and prepare a presentation that would be suitable to present to an industrial or business client.</p>	
Pre-requisites:	Before undertaking this module the student should have undertaken the following:	
	Module Code:	Module Title:
	Other:	All applicants must satisfy the qualification and/or experience requirements as established in the admission criteria. See Reg. 6.3
Co-requisites	Module Code:	Module Title:

* Indicates that module descriptor is not published.

Learning and Teaching	
<p>This module covers a wide variety of theoretical, conceptual and practical areas, which require a range of knowledge and skills at a more advanced level to be displayed and exercised. Delivery of its syllabus content therefore involves a diversity of teaching and assessment methods suitable to the learning outcomes of the module; these include classes, workshops / breakout groups, and flipped class teaching directly related to assessment tasks and your further independent study. Class materials, research resources, exercises, class communications, administrative information and assignment handling will be supported by a Virtual Learning Environment.</p>	
Learning Activities During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:	Student Learning Hours (Normally totalling 200 hours): (Note: Learning hours include both contact hours and hours spent on other learning activities)
Lecture/Core Content Delivery	30
Tutorial/Synchronous Support Activity	6
Independent Study	164
	200 Hours Total
**Indicative Resources: (eg. Core text, journals, internet access)	
The following materials form essential underpinning for the module content and ultimately for the learning outcomes:	

As the University moves towards e-books, these will be updated on a regular basis on the VLE. In addition:

Barbour Index on-line (UWS Library Electronic Resources)

Chartered Institution of Wastes Management: <http://www.ciwm.co.uk/CIWM/CIWMHome.aspx>

Craig, J.R., Vaughan, D.J., Skinner, B.J. (2014) Earth Resources and the Environment 4th edn Pearson

Harrison R.M. (2014) Pollution: causes, effects and control. 5th edn. RSC Publishing

NetRegs: Environmental guidance for Northern Ireland and Scotland:
<https://www.netregs.org.uk/>

Scottish Environment Protection Agency: <http://www.sepa.org.uk/>

UWS class notes on the Virtual Learning Environment

(**N.B. Although reading lists should include current publications, students are advised (particularly for material marked with an asterisk*) to wait until the start of session for confirmation of the most up-to-date material)

Engagement Requirements

In line with the Academic Engagement Procedure, Students are defined as academically engaged if they are regularly engaged with timetabled teaching sessions, course-related learning resources including those in the Library and on the relevant learning platform, and complete assessments and submit these on time. Please refer to the Academic Engagement Procedure at the following link: [Academic engagement procedure](#)

Supplemental Information

Programme Board	Physical Sciences
Assessment Results (Pass/Fail)	No
Subject Panel	Physical Sciences
Moderator	Jan Miller
External Examiner	A Oke
Accreditation Details	
Changes/Version Number	2.12 Module Summary updated; Learning and Teaching updated; Pre-requisites updated; External Examiner updated; Term of deliver updated; Accreditation details updated; Indicative Resources updated.

Assessment: (also refer to Assessment Outcomes Grids below)

Assignment 1 Written report on the emission of pollutants.
40% of overall mark

Assignment 2 Written report looking at pollution control within different sectors. 40% of overall mark
A presentation based on pollution control levers. 20% of overall mark
(N.B. (i) Assessment Outcomes Grids for the module (one for each component) can be found below which clearly demonstrate how the learning outcomes of the module will be assessed. (ii) An indicative schedule listing approximate times within the academic calendar when assessment is likely to feature will be provided within the Student Handbook.)

Assessment Outcome Grids (Footnote A.)

Component 1					
Assessment Type (Footnote B.)	Learning Outcome (1)	Learning Outcome (2)	Learning Outcome (3)	Weighting (%) of Assessment Element	Timetabled Contact Hours
Essay	✓			40	0
Component 2					
Assessment Type (Footnote B.)	Learning Outcome (1)	Learning Outcome (2)	Learning Outcome (3)	Weighting (%) of Assessment Element	Timetabled Contact Hours
Essay		✓		40	0
Component 3					
Assessment Type (Footnote B.)	Learning Outcome (1)	Learning Outcome (2)	Learning Outcome (3)	Weighting (%) of Assessment Element	Timetabled Contact Hours
Presentation			✓	20	0
Combined Total For All Components				100%	2 hours

Footnotes

A. Referred to within Assessment Section above

B. Identified in the Learning Outcome Section above

Note(s):
<ol style="list-style-type: none"> More than one assessment method can be used to assess individual learning outcomes. Schools are responsible for determining student contact hours. Please refer to University Policy on contact hours (extract contained within section 10 of the Module Descriptor guidance note). This will normally be variable across Schools, dependent on Programmes &/or Professional requirements.

Equality and Diversity

Aligned with the University's commitment to equality and diversity, this module supports equality of opportunity for students from all backgrounds and learning needs. Using the VLE, material will be presented electronically in formats that allow flexible access and manipulation of content. This module complies with University regulations and guidance on inclusive learning and teaching practice. Specialist assistive equipment, support provision and adjustment to assessment practice in accordance with the University's policies and regulations. More information on the University's EDI policies can be accessed at:
<https://www.uws.ac.uk/about-uws/uws-commitments/equality-diversity-inclusion/>
[UWS Equality and Diversity Policy](#)

(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)