University of the West of Scotland

Module Descriptor

Session: 2024/25

Title of Module: Pollution Control			
Code:	**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:	Gillian Clayton		

Summary of Module

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.

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.

On completion of this module you will gain the following Graduate Attributes:

- **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	Hybrid 0	Work-Based Learning
☒	☐	☐	☐	☐	☐

See Guidance Note for details.

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) (tick as appropriate)						
Paisley:	Ayr:	Dumfries:	Lanarkshire:	London:	Distance/Online Learning:	Other:
☒	☐	☐	☐	☐	☐	Add name

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

Learning Outcomes: (maximum of 5 statements) **These should take cognisance of the SCQF level descriptors and be at the appropriate level for the module.** At the end of this module the student will be able to:	
L1	Have a detailed and critical knowledge of methods of controlling and disposing of domestic and industrial wastes, including emerging technologies
L2	Incorporate pollution control techniques into the management of air, land and water, with links to sustainable resource management.
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.

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)	SCQF Level **11** Gain a critical understanding of the range and variety of pollution control techniques, with particular reference to industrial settings that deal with wastes. Evaluate the effectiveness of waste treatment techniques.
Practice: Applied Knowledge and Understanding	SCQF Level **11** Identify waste management/treatment/disposal options with particular regard to new technologies. 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.
Generic Cognitive skills	SCQF Level **11** 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. Demonstrate an understanding of an issue and develop a solution to a potential pollution problem.	
Communication, ICT and Numeracy Skills	SCQF Level **11** Gain a full understanding of the process of preparing oral and written reports, using IT. Communicate pollution control options in a professional setting.	
Autonomy, Accountability and Working with others	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. 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.	
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	
In line with current learning and teaching principles, a 20-credit module includes 200 learning hours, normally including a minimum of 36 contact hours and maximum of 48 contact hours.	
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
	Hours Total 200

****Indicative Resources: (eg. Core text, journals, internet access)**

The following materials form essential underpinning for the module content and ultimately for the learning outcomes:

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

Click or tap here to enter text.

Click or tap here to enter text.

Please ensure the list is kept short and current. Essential resources should be included, broader resources should be kept for module handbooks / Aula VLE.

Resources should be listed in Right Harvard referencing style or agreed professional body deviation and in alphabetical order.

(**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)

Attendance and Engagement Requirements

In line with the Student Attendance and Engagement Procedure: Students are academically engaged if they are regularly attending and participating in timetabled on-campus and online teaching sessions, asynchronous online learning activities, course-related learning resources, and complete assessments and submit these on time.

For the purposes of this module, academic engagement equates to the following:

Attendance of all on-campus sessions (classes and tutorials), and submission of assessments.

Equality and Diversity

The University's Equality, Diversity and Human Rights Procedure can be accessed at the following link: UWS Equality, Diversity and Human Rights Code. Please ensure any specific requirements are detailed in this section. Module Co-ordinators should consider the accessibility of their module for groups with protected characteristics..
(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)

Supplemental Information

Divisional Programme Board	Physical Sciences
Assessment Results (Pass/Fail)	Yes ☐No ☒
School Assessment Board	Physical Sciences
Moderator	To be confirmed
External Examiner	Adekunle Oke
Accreditation Details	Not accredited.
Changes/Version Number	2.13 Module Delivery: Changed to face-to-face from Hybrid-C. Term of Delivery: T1 from T2. Supplemental Information: Moderator – to be confirmed.

Assessment: (also refer to Assessment Outcomes Grids below)
Assessment 1: Written Report on pollutant emissions (40%)
Assessment 2: Written Report on sector pollutants (40%)
Assessment 3 – Oral presentation (20%)
(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 Module Handbook.)

Assessment Outcome Grids (See Guidance Note)

Component 1							
Assessment Type (Footnote B.)	**Learning Outcome (1)**	**Learning Outcome (2)**	**Learning Outcome (3)**	**Learning Outcome (4)**	**Learning Outcome (5)**	**Weighting (%) of Assessment Element**	**Timetabled Contact Hours**
Written report	X			N/A	N/A	40	0

Component 2							
Assessment Type (Footnote B.)	**Learning Outcome (1)**	**Learning Outcome (2)**	**Learning Outcome (3)**	**Learning Outcome (4)**	**Learning Outcome (5)**	**Weighting (%) of Assessment Element**	**Timetabled Contact Hours**
Written report		X		N/A	N/A	40	0

Component 3							
Assessment Type (Footnote B.)	**Learning Outcome (1)**	**Learning Outcome (2)**	**Learning Outcome (3)**	**Learning Outcome (4)**	**Learning Outcome (5)**	**Weighting (%) of Assessment Element**	**Timetabled Contact Hours**
Oral presentation			X	N/A	N/A	20	0
					Combined Total for All Components	**100%**	**0**