Course Syllabus
offered by School of Energy and Environment
with effect from Semester A 2022/23

Part I Course Overview

Course Title:	Environmental Pollution: Theories, Measurement and Mitigation
Course Code:	SEE8220
Course Duration:	One semester
Credit Units:	3
Level:	R8
Medium of Instruction:	English
Medium of Assessment:	English
Prerequisites:	Nil
Precursors:	Nil
Equivalent Courses:	SEE5212 Environmental Pollution: Theories, Measurement and Mitigation
Exclusive Courses:	Nil

Part II Course Details

1. Abstract

The course aims to provide students the fundamental theories of environmental pollution, including key aspects of the pollution of air, water and soils, with a particular focus on both indoor and outdoor air. Additionally it will examine the application of measurement techniques and how underlying theory and monitoring creates a firm basis creating policy. Holistic training, which includes the cultural context of pollution, will equip the students with knowledge of theories and their application to solve complicated environmental pollution issues innovatively and independently.

2. Course Intended Learning Outcomes (CILOs)

No.	CILOs	Weighting (if applicable)	Discovery-enriched curriculum related learning outcomes (please tick where appropriate)		
			A1	*A2*	*A3*
1.	Explain the nature of environmental pollution	20%		✓	
2.	Explain the drivers, principles and methods of environmental analysis;	15%		✓	
3.	Explain some key methods and techniques for pollution measurement;	15%		✓	
4	Relate the theories and measured pollution data to the development of environmental regulations;	30%		✓	
5	Apply the different pollution measurement techniques and create the methodologies to analyze the data to solve the environmental problems independently and innovatively	20%	✓		✓
		100%			

A1: *Attitude*
Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: *Ability*
Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to self-life problems.

A3: *Accomplishments*
Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

3. Teaching and Learning Activities (TLAs)

TLA	Brief Description	CILO No.					Hours/week (if applicable)
		1	2	3	4	5	
Lecture	Explain key concepts of environmental pollution and its management	✓	✓	✓	✓		2.25
Assignment						✓	0.25
Presentations		✓	✓	✓			0.25
Report		✓	✓	✓	✓		0.25

4. Assessment Tasks/Activities (ATs)

Assessment Tasks/Activities	CILO No.						Weighting	Remarks
	1	2	3	4	5			
Continuous Assessment: 50%								
Project	✓	✓	✓	✓	✓		50%	
Examination: 50% (duration: 2 hours , if applicable)								
							100%	

To pass a course, a student must do ALL of the following:

1) obtain at least 30% of the total marks allocated towards coursework (combination of assignments, pop quizzes, term paper, lab reports and/ or quiz, if applicable);
2) obtain at least 30% of the total marks allocated towards final examination (if applicable); and
3) meet the criteria listed in the section on Grading of Student Achievement.

5. Assessment Rubrics

Applicable to students admitted in Semester A 2022/23 and thereafter

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B)	Adequate (B-, C+, C)	Failure (F)
1. Group Project	Ability to develop a specific pollution topic and explain it to others.	High	Significant	Moderate to Basic	Not even reaching marginal levels
2. Final Exam	Ability to analyse and solve practical problems related to environmental pollution and its mitigation.	High	Significant	Moderate to Basic	Not even reaching marginal levels

Applicable to students admitted before Semester A 2022/23

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Adequate (C+, C, C-)	Marginal (D)	Failure (F)
1. Group Project	Ability to develop a specific pollution topic and explain it to others.	High	Significant	Moderate	Basic	Not even reaching marginal levels
2. Final Exam	Ability to analyse and solve practical problems related to environmental pollution and its mitigation.	High	Significant	Moderate	Basic	Not even reaching marginal levels

Part III Other Information

1. Keyword Syllabus

Nil

2. Reading List

2.1 Compulsory Readings

Nil

2.2 Additional Readings

1.	Mark L Brusseau, Ian L Pepper, Charles P Gerba, Environmental and Pollution Science, 3rd Edition, Academic Press, 2019.
2.	Marquita K Hill, Understanding Environmental Pollution, 4th Edition, Cambridge University Press, 2020.
3.	James Girard, Principles of Environmental Chemistry, Jones & Bartlett Learning, 3rd Edition, 2013.