

## Liverpool John Moores University

Title: Environmental Pollution  
Status: Definitive  
Code: **5304NATSCI** (121170)  
Version Start Date: 01-08-2021

Owning School/Faculty: Biological and Environmental Sciences  
Teaching School/Faculty: Biological and Environmental Sciences

Team	Leader
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**Academic Level:** FHEQ5  
**Credit Value:** 20  
**Total Delivered Hours:** 42

**Total Learning Hours:** 200  
**Private Study:** 158

### Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	20
Off Site	4
Practical	14
Workshop	4

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	CSWK1	Report based on field and laboratory experiments	40	
Test	CSWK2	On-line test x3	60	

### Aims

*To introduce students to the processes that drive the transport, transformation and fate of environmental pollutants in terrestrial and marine environments.*

*To develop skills in acquiring, processing and interpreting environmental pollution data.*

*To develop skills in the production of professional standard environmental reports.*

## **Learning Outcomes**

After completing the module the student should be able to:

- 1 Analyse and evaluate current views concerning the transport, transformation and fate of contemporary environmental pollutants.
- 2 Compile a professional standard scientific report on an applied environmental pollution problem.
- 3 Plan and perform laboratory analysis of environmental samples and demonstrate analytical capability with a variety of environmental data.

## **Learning Outcomes of Assessments**

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

Report	1	2	3
Test	1	3	

## **Outline Syllabus**

*Metal pollution, soil science, carbon cycles, microplastics pollution, ocean acidification, terrestrial and marine systems.*

## **Learning Activities**

Teaching on this module is in the form of lectures, practicals and fieldwork. Most lectures are followed by practical activities that will help students develop practical skills associated with the content of each lecture. Assignment 1 (40%): There is one field trip to a former industrial area where contaminated soil may be a problem. Students are required, through field sampling and laboratory analyses, to produce a professional standard scientific report quantifying the extent of contamination and making recommendations for remediation. Assignment 2 (60%): This assignment is composed of three on-line tests (each worth 20%) which will test students knowledge on the carbon cycle, microplastics pollution and ocean acidification.

## **Notes**

The module will examine pollution of terrestrial and marine environments by considering key environmental pollutants and elements (toxic metals, microplastics, carbon) and their impacts on the environment (ocean acidification. Theme 1 will focus on terrestrial environments, describing the characteristics, highlighting the

significance and investigating the functioning of soils and terrestrial systems. These despite being home to the vast majority of human populations, providing large amount of our resources (e.g. food, water, minerals, fuel etc.), and, consequently, being heavily influenced by our actions (e.g. pollution, deforestation), are still not fully understood. Theme 2 will concentrate on the marine environment. The ocean is the vastest environment on earth and although there is growing awareness of its major influence on our lives through climate regulation and the increasing reliance on its resources, it is still woefully little understood. This part of the module will introduce marine ecosystems and their biogeochemical significance, and will investigate the impacts of human actions, such as pollution and ocean acidification.