Liverpool John Moores University

Title:	POLLUTION OF LAND, SEA AND AIR
Status:	Definitive
Code:	**5013TECH** (105308)
Version Start Date:	01-08-2016
Owning School/Faculty:	Maritime and Mechanical Engineering
Teaching School/Faculty:	Maritime and Mechanical Engineering

Team	Leader
Allan Carrier	Y

Academic Level:	FHEQ5	**Credit Value:**	12	**Total Delivered Hours:**	36
Total Learning Hours:	120	**Private Study:**	84		

Delivery Options
Course typically offered: Semester 2

Component	Contact Hours
Lecture	24
Practical	12

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Essay	AS1	Earth's Bio and Eco-system Assignment	25	
Essay	AS2	Pollution Project	50	
Essay	AS3	Pollution Politics Assignment	25	

Aims

The aim of this module is to give students an understanding of the complex issue of pollution. It will consider the chemical causes and biological effects of water, land and air pollution, the societal and economic consequences, and the steps being taken to remedy the problems, in the context of sustainability.

Learning Outcomes

After completing the module the student should be able to:

1 Show a basic comprehension of the complexity of our atmosphere.
2 Define some of the current atmospheric pollution problems: ozone depletion, smog formation, acid rain, global warming / dimming.
3 Identify human influence on our atmosphere and its predicted effecs on our future climate.
4 Evaluate the conflicting positions taken by interested parties with regard to pollution and climate change.

Learning Outcomes of Assessments

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

CW	1	
CW	2	3
CW	4	

Outline Syllabus

Composition and structure of the Earth and its atmosphere. Bio and eco-systems.

Pollution issues and coastal and terrestrial ecosystems. Water Pollution: Groundwater Pollution; Marine Pollution; Atmospheric Pollution: global warming, ozone depletion, acid rain. Bioindicators: Organics in the Environment; Heavy Metals in the Environment; Pollution Abatement Technologies.

Waste Handling & Treatment; Trade / Industrial Effluent Treatment; Municipal Waste water Sewage Treatment; Sludge Management; Contaminated Soil; Sediment Management. Effluent charges, including reduction of volume charges, allowances and MOGDON formula.

The role of pressure groups and interested parties. Governments and Inter Government panels on climate change. Carbon trading, taxation and the Koyoto agreement. Third World countries and their carbon emissions.

Learning Activities

This module uses a range of structured lectures and local / regional / international case study material.

Notes

This module will be delivered with the aid of case studies and investigative approach to study will be encouraged. Field trips to local sites of interest will also be organised.