The Hashemite University
Faculty of Natural Resources and Environment
Department of Lands Management and Environment

Remediation of Polluted Environment (111202430)

3 Credit hours (3 h lectures). Discuss the nature of pollution, monitoring wastes and contaminants. The commonly used methods to treat different types of pollution in land, atmosphere and water.

Textbooks

Andrew D. and Garret N, (2010) Environmental Systems and Societies. Pearsons Education Limited, England.

Ian L., Charles P., Mark L. (2006) Brusseau,Environmental and pollution science. Elsevier Academic Press, San Diego, California 92101-4495, USA.

Instructor's Information

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Prerequisites

Prerequisites by topic	
Prerequisites by course	**The Chemistry of Environmental pollutants (111203231)**
Co-requisites by course	
Prerequisite for	

Topics Covered

Week	Topics	Chapter in Text
1	Introduction to pollution	1
2-3	Nature of pollution, detection & monitoring pollution	1
4-5	Apporoaches to pollution management	2
6-8	Solid and atmospheric pollution and sampling	3
9-14	Land pollution and treatments	4

Evaluation

Assessment Tool	Expected Due Date	Weight
Homework & Quizzes	The next class of assignment	10%
First Exam	According to the University first examination schedule	25 %
Second Exam	According to the University second examination schedule	25 %
Final Exam	According to the University final examination schedule	40 %

Course Learning Objectives [1]

Objectives	Details
1. Understand the nature of environmental pollution, detction and monitoring of pollution: [a, e, i, j, k]	1.1. Introduction to pollution of the earth as a definition and a process. [a, e, i, j, k] 1.2. Discriminate between point and non point sources pollution . [a, e, i, k] 1.3. The ability to identify examples of pollutin and understand the consequence of pollution [a, e, i, k] 1.4. Identify different physical, chemical, and biological porperties that can

[1] Lower-case letters in brackets refer to the Student outcomes

	be used as soil quality indicators. [a, e, i, k] 1.5. Being aware with standards water quality tests including chemical and biological tests [a, e, i, k] 1.6. The ability to analyse and run chemical and biological test data. [a, e, i, k] 1.7. Graphical analysis of the organic matter pollution along a river thourgh applying invertibrates diversity information, biochemical oxygen demand and dissolved oxygen. [a, e, i, k] 1.8. Understand Apporaches to pollution management, e.g. Eutrophication. [a, e, i, k]
2. Understand the types of solid domestic waste and atmphsphic pollution. [a, e, i, k]	2.1. Knowing the types of solid domestic wastes [a, e, i, k] 2.2. Knowing how each of the solid domestic waste option works. [a, e, i, k] 2.3. Understand the prons and cons of each of the waste management option such as landfill and incineration. [a, e, i, k] 2.4. Sources and treatment of atmposheric pollution, e.g. ozone pollution. [a, e, i, k] 2.5. Familliarize the student with ODS, ODP, & GWP [a, e, i, k] 2.6. Obtaining Environmental representive samples, risk assessment and its applications. [a, e, i, k]
3. Understanding soil and land pollution with treatment methods	3.1. The pollution attained from surface mining, deforestation, soil salinity, soil acidity and erosion. 3.2. Discriminate and understand the local, regional and global impacts of air pollution. 3.3. Knowing the fates of pesticides and their pollution effect. 3.4. Knowing how the soil and ground water pollution can be treated 3.5. Understanding insito and exsito remediation.

Contribution of Course to Meeting the Professional Component

The student gains knowledge about different sources of pollution on the earth, their impacts, sampling methods, and prons and cons of each remedial actions.

Relationship to Program Outcomes (%)

A	B	C	D	E	F	G	H	I	J	K	L
35				30				10	10	15	

Relationship to Aeronautical Engineering Program Objectives

PEO1	PEO2	PEO3	PEO 4
√	√	√	

Prepared by: Dr. Salman Al-Kofahi
Time of lecture: 12-1
Location: مجمع قاعات ابن رشد م.ش104
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