

COURSE OUTLINE

1. GENERAL

SCHOOL	APPLIED SCIENCES		
DEPARTMENT	ENVIRONMENTAL ENGINEERING		
LEVEL OF STUDY	UNDERGRADUATE		
COURSE UNIT CODE	GE5650	SEMESTER OF STUDY	6 ^o
COURSE TITLE	ENVIRONMENTAL SYSTEMS		
COURSEWORK BREAKDOWN		TEACHING WEEKLY HOURS	ECTS Credits
Lectures - preparation and presentation of several topics of the course from students - educational visits to production sites.		4	4
COURSE UNIT TYPE	SC: Specialization Courses		
PREREQUISITES :	Evaluated knowledge of the course "Environmental Geology".		
LANGUAGE OF INSTRUCTION/EXAMS:	Greek/English		
COURSE DELIVERED TO ERASMUS STUDENTS	YES		
MODULE WEB PAGE (URL)	http://geope.teikoz.gr/undergraduate/ug_studies.htm		

2. LEARNING OUTCOMES

Learning Outcomes
<p>The sciences which are dealing with the environment, it is necessary to know and study the various natural subdivisions and categories of the natural environment and how they act and respond to human intervention in order to be given the most appropriate answers and solutions to the degradation and contamination of both urban and rural environment. The environmental components of a system (air pollution, pollution of surface and groundwater, soil pollution, solid waste, noise, radiation) with problems and their causes are a priority objective of the course. Therefore the operation, management, economic impacts, valuation risk, aesthetics and social acceptance of projects and activities related to environmental systems and ecosystems must be one of the most important and compelling goals of a modern society that respects and cares about the natural and social environment.</p>
<p>General Skills</p> <p>Upon successful completion of the programme students will:</p> <ul style="list-style-type: none"> - have the basic theoretical and practical knowledge in the fields of the subject area of Geotechnology and Environmental Engineering - be able to properly apply the theoretical and practical knowledge acquired during the study period - be able to cover a wide spectrum of scientific and technical knowledge related to mining and geotechnical projects as well as the sector of environmental reclamation - have gained the necessary competencies to proceed to their second cycle study
<p>On successful completion of this module the learner will be able to:</p> <ol style="list-style-type: none"> 1. understand and interpret the environmental impact of the construction and operation of various projects and activities. 2. apply methods and principles for handling environmental impact in terms of technological,

economic, aesthetic and social acceptance.

3. develop programs and contribute to the organization of topics related to environmental economics, environmental management and valuation and risk management.

3. COURSE CONTENTS

Theory

- Ecosystems and their function.
- Environmental problems and their causes
 - Atmospheric Pollution
 - Pollution of surface and groundwater
 - Soil Pollution
 - Waste
 - Noise
 - Radiation
- Environmental Management
- Principles and methods associated with the issues of environmental management, linked with
 - ✓ economic impacts
 - ✓ aesthetics
 - ✓ the broader issues of social acceptability of projects and activities.
- Environmental Economics
- Risk assessment and management.

Laboratory

- Simulation of environmental systems.
- Application of risk management rules.
- Case studies of pollution and rehabilitation.
- Study of environmental management and risk assessment on specific environmental ecosystems.
- Bibliographic search: Global issues: analysis and synthesis of environmental contamination.

4. TEACHING METHODS - ASSESSMENT

MODE OF DELIVERY	In class rum, Face to face.	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGY	Lectures assisting by power point presentations and group comprehension exercises. Educational tours. Contact instructor and students via email.	
TEACHING METHODS	Method description	Semester Workload
	Classroom lectures	80
	Laboratory exercises	40
	Autonomous study	10
	Total contact hours and training	130
ASSESSMENT METHODS	Written tests, oral presentations, evaluation laboratory skills through exercises such as: Simulation of environmental systems. Application of risk management rules. Case studies of pollution and rehabilitation. Study of environmental management and risk assessment on specific environmental ecosystems.	

	Bibliographic search: analysis and synthesis of global issues of environmental contamination.
--	---

5. RESOURCES

- *Recommended Book Resources:*
- *Recommended Article/Paper Resources*

Kaldellis J. K., & KI Chalvatzis, 2005. Environment and Industrial Development. Sustainability and Development, Air Pollution. Theory-deepening comprehension questions. Volume A.
Kaldellis J. K., & KI Chalvatzis, 2005. Environment and Industrial Development. Major environmental problem of waste management. Theory-deepening comprehension questions. Volume B.