COURSE OUTLINE

(1) GENERAL

SCHOOL	School of Env	School of Environment				
ACADEMIC UNIT	Department of Environment					
LEVEL OF STUDIES	Undergraduate					
COURSE CODE	120KEY	SEMESTER 8				
COURSE TITLE	Ecotoxicology					
INDEPENDENT TEACHING ACTIVITIES if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits			WEEKLY TEACHING HOURS		CREDITS	
	Lectures 3					
	Laboratory exercises					
TOTAL			3		5	
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).						
COURSE TYPE general background, special background, specialised general knowledge, skills development	Special back	ground				
PREREQUISITE COURSES:	Organic Chemistry, Environmental Chemistry					
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek					
IS THE COURSE OFFERED TO ERASMUS STUDENTS	No					
COURSE WEBSITE (URL)	https://www.env.aegean.gr/all_courses/ecotoxicology/					

(2) LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area
- Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B
 Guidelines for writing Learning Outcomes

Introduction of students to the concepts of toxicology, ecotoxicology, ecosystem. Environmental

pollutant classes. Characteristic examples of ecotoxicological considerations of environmental

problems. Fate - Transport - Distribution of chemicals to the environment. Effects of chemical

substances in living organisms. Aquatic ecosystems: microcosms, mesocosms and field studies.

Chemical risk assessment. Presentation of research papers in the field of Toxicology - Ecotoxicology (case studies).

The aim of the course is:

• Understanding the similarities and differences of Ecotoxicology and Toxicology

• The distinction of the most important inorganic and organic pollutants of the environment, as well as their impact on the organisms

Understanding the entry, behavior and transport of pollutants into the environment (soil, atmosphere, water ecosystem pollution)
Understanding of the following topics in relation to ecotoxicology: chemicals, fate and transport in the environment, air pollution, water and soil pollution, toxicology, effects in human organisms,

acute and chronic toxic effects, toxicity tests, biomarkers, ecotoxicological investigations, risk

assessment

Consolidating students' consciousness of the concept of ecosystem totality (rather than individual organisms) as a key objective of Ecotoxicology

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information,	Project planning and management
with the use of the necessary technology	Respect for difference and multiculturalism
Adapting to new situations	Respect for the natural environment
Decision-making	Showing social, professional and ethical responsibility and
Working independently	sensitivity to gender issues
Team work	Criticism and self-criticism
Working in an international environment	Production of free, creative and inductive thinking
Working in an interdisciplinary environment	
Production of new research ideas	Others

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Adapting to new situations
- Decision-making
- Working independently
- Production of new research ideas
- Respect for the natural environment

(3) SYLLABUS

- 1. Introduction to Ecotoxicology
- 2. Environmental pollutants
- 3. Fate and transport
- 4. Toxicity testing I
- 5. Toxicity testing II
- 6. Biochemical effects in organisms
- 7. Physiological effects in organisms
- 8. Bioindicators
- 9. Field studies I
- 10. Field studies II
- 11. Risk assessment
- 12. Seminar

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY Face-to-face, Distance learning, etc.	Face-to-face			
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY Use of ICT in teaching, laboratory education, communication with students	Presentations, Power Point, Microsoft Office, Internet			
TEACHING METHODS	Activity	Semester workload		
The manner and methods of teaching are	Lectures	39		
described in detail. Lectures seminars laboratory practice	Study	86		
fieldwork, study and analysis of bibliography,	1			
tutorials, placements, clinical practice, art				
workshop, interactive teaching, educational				
etc.				
The student's study hours for each learning activity are given as well as the hours of non-				
directed study according to the principles of the				
ECTS				
	Course total	125		
STUDENT PERFORMANCE	Language of evaluation: Greek			
EVALUATION				
Description of the evaluation procedure	Class assignment – Powerpoint presentation (60%)			
Language of evaluation, methods of evaluation,	Written final exam (40%)			
summative or conclusive, multiple choice				
questionnaires, short-answer questions, open- ended questions, problem solving, written work	Evaluation methods:			
essay/report, oral examination, public	Multiple Choice Questions 25%			
presentation, laboratory work, clinical	Short Answer Questions 25%			
examination of patient, art interpretation, other	Open Questions 50%			
Specifically-defined evaluation criteria are given,				
and if and where they are accessible to students.				

(5) ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

Walker, C.H., Sibly, R.M., Hopkin, S.P., Peakall D.B., (2012). Principles of ecotoxicology. 4th edition. CRC Press

- Related academic journals: