COURSE OUTLINE

(1) GENERAL

SCHOOL	SCHOOL OF SCIENCES		
DEPARTMENT	DEPARTMENT OF CHEMISTRY		
LEVEL OF STUDIES	ISCED level 6 – Bachelor's or equivalent level		
COURSE CODE	EN27	**SEMESTER**	
COURSE TITLE	Environmental education		
TEACHING ACTIVITIES *If the ECTS Credits are distributed in distinct parts of the course e.g. lectures, labs etc. If the ECTS Credits are awarded to the whole course, then please indicate the teaching hours per week and the corresponding ECTS Credits.*		**TEACHING HOURS PER WEEK**	**ECTS CREDITS**
	Lectures	2	3
Please, add lines if necessary. Teaching methods and organization of the course are described in section 4.			
COURSE TYPE *Background, General Knowledge, Scientific Area, Skill Development*	Scientific Field		
PREREQUISITES:			
TEACHING & EXAMINATION LANGUAGE:	Greek		
COURSE OFFERED TO ERASMUS STUDENTS:	NO		
COURSE URL:	https://eclass2.emt.duth.gr/courses/PTD202/		

(2) LEARNING OUTCOMES

Learning Outcomes
Please describe the learning outcomes of the course: Knowledge, skills and abilities acquired after the successful completion of the course.

Course Purpose

The aim of the course is to cultivate a positive attitude and environmentally responsible behavior among learners, enabling them to promote a variety of innovative educational models that enhance skills, knowledge, and strategies for rational management, protection of the environment, and promotion of sustainable development. The course seeks to foster an environmental culture and an ethos oriented towards sustainability, so that all participants can learn, create, act, and make choices guided by the principles of environmental protection and the right of all people to live under conditions of economic, cultural, social, and environmental sustainability. Furthermore, environmental issues are examined not only as natural phenomena but also through an interdisciplinary, holistic, and interconnected approach, taking into account the social, economic, political, and ethical factors that influence and shape them.

Upon successful completion of the course, students will have acquired knowledge and skills in Environmental Education, enabling them to:

- Highlight an environmental issue both interdisciplinarily and holistically, through the simultaneous integration and interconnection of all relevant thematic areas and their broader implications.
- Construct knowledge and develop research-oriented activities as well as problem-solving skills through exposure to authentic and practical learning experiences, enhanced by the implementation of appropriate educational activities.

- Understand that environmental problems are primarily social issues, influenced by values and lifestyles, leading to both environmental and social awareness among students.
- Achieve better organization and active knowledge acquisition regarding environmental issues, fostering creative thinking, collaboration, organization, critical judgment, evaluation, and generalization of data.
- Cultivate the principles of environmental protection, take leadership roles in addressing challenges arising from social changes, and promote environmental consciousness within the public sphere.
- Define the environment as a system of interactions between natural and social processes.
- Understand and describe the structure and function of both natural and human-made environments, as well as the interdependence between natural phenomena and the relationship between society and nature.
- Comprehend the importance of managing natural and anthropogenic environments from the perspective of sustainability.
- Identify the conceptual framework and challenges of Education for the Environment and Sustainability.
- Examine and apply modern pedagogical approaches and active learning techniques within a holistic and critical framework for studying environmental issues.
- Understand the pedagogical framework of Education for the Environment and Sustainability, including practices, concepts, and perspectives such as interdisciplinarity, systems thinking, critical and creative thinking, collaborative learning, values education, action competence, participation, democracy, and active citizenship.
- Evaluate the role and significance of learners' perceptions in shaping teaching and learning processes.
- Develop pedagogical practices, concepts, perspectives, and teaching strategies within Environmental and Sustainability Education and design relevant educational interventions for students, the wider public, and professional groups (e.g., farmers, industrial workers, etc.).

Students will also acquire knowledge with the ultimate goal of:

- To develop and cultivate the necessary knowledge and skills, which will be used as tools for understanding the complexity of contemporary and timeless environmental issues and their holistic approach.
- To understand the principles and processes of the structure and functioning of the environment.
- To deepen and consolidate modern pedagogical methods and scientifically documented positions and opinions that will be used in the implementation of environmental programs.
- Students will also acquire knowledge and skills with the ultimate aim to:
- Develop and cultivate the necessary knowledge and competencies to be used as tools for understanding the complexity of contemporary and long-standing environmental issues and for adopting a holistic approach to their study and resolution.
- Understand the principles and processes underlying the structure and functioning of the environment.
- Familiarize themselves with and consolidate modern pedagogical methods and scientifically substantiated perspectives and positions to be applied in the implementation of environmental education programs.

Skills

Upon completion of the course, students are expected to be able to:

- Evaluate threats and risks arising from both natural and anthropogenic pollution impacts on the environment, and respond rationally to their consequences, using sustainable development and viability as guiding criteria.
- Acquire the skills required for the development, implementation, and evaluation of integrated strategies and complex plans addressing environmental problems and issues.

- Undertake actions guided by the principles of sustainable development and strategic planning of innovative solutions, serving the goals of sustainable environmental growth in collaboration with relevant institutions and local communities.
- Organize activities aimed at environmental education and awareness-raising among different groups of citizens.
- Process and evaluate the results of management methods applied in various cases and deepen their understanding of experiential learning within environmental education programs.
- Understand the purpose, objectives, and key characteristics of Environmental Education.
- Recognize the methods and challenges associated with the implementation of Environmental Education in formal education settings.
- Become familiar with the main methods and techniques of Environmental Education and their practical applications.
- Be equipped with the knowledge and skills necessary to become effective environmental educators.
- Be trained in designing a comprehensive Environmental Education program.
- Describe the principles and theoretical framework of Environmental Communication.
- Gain practical experience in the application of Environmental Communication strategies.
- Define and explain key concepts such as "environmentally responsible behavior," "environmental awareness," "citizen participation," and describe their fundamental characteristics.

General Competences

More specifically, the content of the course promotes the following competences:

- Understanding the relationship between humans and the environment, recognizing the consequences of human impact on nature, and acknowledging the necessity of sustainability to address environmental problems and ensure the preservation of natural resources for future generations.
- Recognizing the importance of information and awareness among rural populations in promoting a more sustainable environment.
- Understanding the principles that govern Environmental Education and appreciating its significance and value.
- Searching for, analyzing, and synthesizing data and information, using appropriate technologies and tools.
- Working effectively in an international environment.
- Collaborating within interdisciplinary settings.
- Designing and managing projects.
- Respecting diversity and multiculturalism.
- Demonstrating social, professional, and ethical responsibility, as well as gender sensitivity.
- Practicing critical and self-critical thinking.
- Promoting free, creative, and inductive thinking.

General Skills

Name the desirable general skills upon successful completion of the module

Search, analysis and synthesis of data and information,
ICT Use
Adaptation to new situations
Decision making
Autonomous work
Teamwork
Working in an international environment
Working in an interdisciplinary environment
Production of new research ideas
Project design and management
Equity and Inclusion
Respect for the natural environment
Sustainability
Demonstration of social, professional and moral responsibility and sensitivity to gender issues
Critical thinking
Promoting free, creative and inductive reasoning

Adaptation to new situations
Decision making
Autonomous work

Teamwork
Working in an international environment
Working in an interdisciplinary environment
Production of new research ideas

(3) COURSE CONTENT

Course Content / Syllabus

1. Boundaries of the cognitive and methodological framework of Environmental Education
2. Necessity, purpose, and rationale for Environmental Education
3. The evolution of Environmental Education at the international level
4. Educators and Environmental Education
5. Application of Environmental Education in formal education
6. Sustainable development
7. Pedagogical relationship between Environmental and Interdisciplinary Education
8. Teaching structure templates – Lesson plan
9. Educational purposes and objectives
10. Teaching templates
11. Introduction to the project-based method
12. Activities developed within the framework of the project-based method
13. Designing, organizing, and implementing an Environmental Education program using the project-based method

(4) LEARNING & TEACHING METHODS - EVALUATION

<table>
<tr><td>TEACHING METHOD
Face to face, Distance learning, etc.</td><td>Face to face</td></tr>
<tr><td>USE OF INFORMATION & COMMUNICATIONS TECHNOLOGY (ICT)
Use of ICT in Teaching, in Laboratory Education, in Communication with students</td><td>Use of ICT in Teaching
Use of ICT in Communication with students</td></tr>
<tr><td>TEACHING ORGANIZATION
The ways and methods of teaching are described in detail.
Lectures, Seminars, Laboratory Exercise, Field Exercise, Bibliographic research & analysis, Tutoring, Internship (Placement), Clinical Exercise, Art Workshop, Interactive learning, Study visits, Study / creation, project, creation, project. Etc.

The supervised and unsupervised workload per activity is indicated here, so that total workload per semester complies to ECTS standards.</td><td>
<table>
<tr><th>Activity</th><th>Workload/semester</th></tr>
<tr><td>Lectures, production, and analysis of lesson plans</td><td>26</td></tr>
<tr><td>Writing assignments</td><td>15</td></tr>
<tr><td>Individual study and preparation for the final examination</td><td>34</td></tr>
<tr><td>Total workload for the course</td><td>75</td></tr>
</table>
</td></tr>
<tr><td>STUDENT EVALUATION
Description of the evaluation process

Assessment Language, Assessment Methods, Formative or Concluding, Multiple Choice Test, Short Answer Questions, Essay Development Questions, Problem Solving, Written Assignment, Essay / Report, Oral Exam, Presentation in audience, Laboratory Report, Clinical examination of a patient, Artistic interpretation, Other/Others</td><td>Student evaluation languages
Greek
Method (Formative or Concluding)
Summative
Student evaluation methods
Evaluation of students is conducted through:
1. Progress / Continuous assessment – 20%
2. Written or oral examination – 60%
3. Individual or group assignment – 20%</td></tr>
</table>

Please indicate all relevant information about the course assessment and how students are informed	**Rate** **100**

(5) SUGGESTED BIBLIOGRAPHY

- Δημητρίου, Α. (2009). "Περιβαλλοντική εκπαίδευση: Περιβάλλον, αειφορία. Θεωρητικές και παιδαγωγικές προσεγγίσεις". Θεσσαλονίκη: Επίκεντρο.
- Λιαράκου, Γ. & Φλογαΐτη, Ε. (2007). "Από την Περιβαλλοντική Εκπαίδευση στην Εκπαίδευση για την Αειφόρο Ανάπτυξη: Προβληματισμοί, Τάσεις και Προτάσεις". Αθήνα: Νήσος.
- Δημητρίου, Α. (2005). "Η περιβαλλοντική εκπαίδευση ως μέσο για την ανάπτυξη της συνεργασίας των λαών, την κοινωνική δικαιοσύνη, την ειρήνη και τον πολιτισμό". Στο: Αλ. Γεωργόπουλος (Επιμ.), Περιβαλλοντική Εκπαίδευση. Ο νέος πολιτισμός που αναδύεται. Αθήνα: Gutenberg.
- Mogensen, F. and Schnack, K. (2010) "The action competence approach and the 'new' discourses of education for sustainable development, competence and quality criteria", Environmental Education Research.
- European Union. (2011). "Council conclusions on the role of education and training in the implementation of the 'Europe 2020' strategy, (2011/C 70/01)". Ανασύρθηκε από http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2011:070:0001:00 03:EN:PDF.
- Whitehouse, H. (2008). "EE in Cyberspace, Why Not?" Teaching, Learning and Researching Tertiary Pre-Service and In-Service Teacher Environmental Education Online. Australian Journal of Environmental Education.
- Φλογαΐτη, Ε. (2008). "Σύγχρονες παιδαγωγικές προσεγγίσεις για τη μελέτη του περιβάλλοντος και των περιβαλλοντικών ζητημάτων". Στο: Α. Δημητρίου, Ε. Φλογαΐτη, Εισαγωγή στο Φυσικό και Ανθρωπογενές Περιβάλλον: Εκπαίδευση για το Περιβάλλον. Πάτρα: ΕΑΠ.
- Θεοδωροπούλου, Ε., Καΐλα Μ., Bonnett, M., Larrere, C. (2009). "Περιβαλλοντική ηθική: Από την έρευνα και τη θεωρία στην εφαρμογή". Αθήνα: Ατραπός.
- Φλογαΐτη, Ε., (2011). Περιβαλλοντική Εκπαίδευση, Πεδίο Α.Ε., Αθήνα.
- Γεωργόπουλος Α., Τσαλίκη Ε., (1998). Περιβαλλοντική Εκπαίδευση. Αρχές Φιλοσοφία – Μεθοδολογία, Παιχνίδια & Ασκήσεις, Gutenberg, Αθήνα.