

COURSE OUTLINE

1. GENERAL

SCHOOL			
DEPARTMENT	DEPARTMENT OF PHYSICS		
LEVEL OF STUDIES	ISCED level 6 – Bachelor's or equivalent level		
COURSE CODE	E507-2023	SEMESTER	5th Semester
COURSE TITLE	New Technologies in Education and Online Teaching of Physical Sciences		
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
		3	0.0
COURSE TYPE Background, General Knowledge, Scientific Area, Skill Development	General Knowledge		
PREREQUISITES			
TEACHING & EXAMINATION LANGUAGE:	Greek		
COURSE OFFERED TO ERASMUS STUDENTS:	NO		
COURSE URL:	https://eclass.emt.duth.gr/courses/PHYSICS219/		

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.
the course is aimed at undergraduate students, over 2nd year, who have a very good training in the basic knowledge of the positive sciences. It provides the student with the necessary skills required for the effective use of new technologies (PC, Internet, projectors, interactive boards, etc.) in the educational process. All of the above is happening understandable with examples and exercises implemented in the Electronics labs Computer. In the final stage, the homework student develops a complete online course, using as many tools as possible than what he has be taught. The aim of the course is for students to practice online teaching courses and in the explanation of the material through the possibilities offered by modern technology technology. In addition, he answers questions from students watching online lesson through the corresponding online discussion environment. In particular, after the successful completion of the course, the student will be able to:

Uses simulations and multimedia to teach advanced concepts
Effectively uses the internet and its applications in education
procedure
Uses multimedia and presentation application creation software
Creates and posts courses on the World Wide Web.

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

Search, analysis and synthesis of data and information, ICT Use
Decision making
Working in an interdisciplinary environment
Critical thinking
Promoting free, creative and inductive reasoning

3. COURSE CONTENT

Theoretical Part of the Course

I. II. Introduction to New Technologies in Education.

Historical data, basic knowledge of the operation and use of the Internet (internet) and
World Wide Web (www).

III. Delimitations of the cognitive and methodological framework of New Technologies in
Education.

IV. V. VI. VII. VIII. IX. X. XI. XII. Necessity, purposes and reason for existence of New Technologies in Education.

The course of development of New Technologies in Education at an international level

Educators and New Technologies in Education.

Application of New Technologies in Education.

Pedagogical relationship of New Technologies in Education.

Using simulations and multimedia to teach advanced concepts.

Software for creating multimedia applications, presentations and analytical calculations.

The internet in the educational process

Post courses on the World Wide Web.

XIII. Modern distance learning software (teleconferencing).

4. LEARNING & TEACHING METHODS - EVALUATION

TEACHING METHOD Face to face, Distance learning, etc.	Face to face
USE OF INFORMATION & COMMUNICATIONS TECHNOLOGY (ICT) Use of ICT in Teaching, in Laboratory Education, in	Use of ICT in Teaching Use of ICT in Communication with students

Communication with students							
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	<table border="1"> <thead> <tr> <th>Activity</th><th>Workload/semester</th></tr> </thead> <tbody> <tr> <td>Lectures</td><td>3</td></tr> <tr> <td>Total</td><td>3</td></tr> </tbody> </table>	Activity	Workload/semester	Lectures	3	Total	3
Activity	Workload/semester						
Lectures	3						
Total	3						
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 Please indicate all relevant information about the course assessment and how students are informed	Student evaluation languages Greek Method (Formative or Concluding) Formative Student evaluation methods Written Exam with Short Answer Questions Rate 100						

5. Suggested Bibliography

The Digital Scholar: How Technology Is Transforming Scholarly Practice by Martin Weller - Bloomsbury Academic, 2011
 2. The 2013 Free education technology resources textbook
 3. http://www.humber.ca/centreforteachingandlearning/assets/files/Teaching%20Resources/2013_EmergingEdTech_Free-Education-Technology-Resources-eBook.pdf
 4. 5. 6. 7. The Flipped Classroom Workshop in a Book by Kelly Walsh
 Best Practices for Teaching with Emerging Technologies by Michelle Pacansky-Brock
 E. Kastro, B. Hyslop, HTML5 και CSS3 με εικόνες, Κλειδάριθμος 2013
 L. Lemay, R. Colburn, Πλήρες εγχειρίδιο της HTML και CSS, Γκιούρδας 2011

Eudoxus

Η Ερευνητική Μεθοδολογία στον Πραγματικό Κόσμο, 5η Έκδοση