

## COURSE OUTLINE

### (1) GENERAL

<b>SCHOOL</b>	SCHOOL OF SCIENCES		
<b>ACADEMIC UNIT</b>	PHYSICS DEPARTMENT		
<b>LEVEL OF STUDIES</b>	POSTGRADUATE		
<b>COURSE CODE</b>	M323	<b>SEMESTER</b>	2
<b>COURSE TITLE</b>	ELECTRONIC LEARNING ENVIROMENTS AND APPLICATIONS IN PHYSICS EDUCATION		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <i>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</i>	<b>WEEKLY TEACHING HOURS</b>	<b>CREDITS</b>	
	3	5	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	General background		
<b>PREREQUISITE COURSES:</b>			
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	Greek		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBSITE (URL)</b>			

### (2) LEARNING OUTCOMES

<p><b>Learning outcomes</b></p> <p><i>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.</i></p> <p><i>Consult Appendix A</i></p> <ul style="list-style-type: none"> <li>• <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i></li> <li>• <i>Descriptors for Levels 6, 7 &amp; 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i></li> <li>• <i>Guidelines for writing Learning Outcomes</i></li> </ul>
<p><b>The course provides students with knowledge about e-learning and its applications in teaching. In particular, the creation and publication of websites, synchronous and asynchronous e-learning systems and their applications in teaching are examined. Upon successful completion of the course the student will be able to</b></p> <ul style="list-style-type: none"> <li>• <b>Understand the basic principles of creating and publishing websites and being able to create and manage a website comprising text and multimedia content</b></li> <li>• <b>Understand the basic principles of CMS / LMS systems and be able to create and manage a course in Moodle</b></li> <li>• <b>Understand the recent developments regarding open courses and MOOCS and their applications in lifelong learning and teaching</b></li> </ul>

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

### (3) SYLLABUS

Introduction to the Internet. E-learning Technologies. Creation and publication of web sites, HTML. Content / Knowledge Management Systems (LMS, CMS, LCMS). Modern e-learning systems. Electronic classroom management. Distance learning assessment. Opencourses, MOOCS. Applications in Physics Education.

### (4) TEACHING and LEARNING METHODS - EVALUATION

<p><b>DELIVERY</b></p> <p><i>Face-to-face, Distance learning, etc.</i></p>	Face-to-face	
<p><b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b></p> <p><i>Use of ICT in teaching, laboratory education, communication with students</i></p>	<p><b>Extensive use of the learning management system MOODLE in delivering course content (as lecture notes, problems and solutions) and submitting solutions to assignments.</b></p>	
<p><b>TEACHING METHODS</b></p> <p><i>The manner and methods of teaching are described in detail.</i></p> <p><i>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.</i></p> <p><i>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</i></p>	<p><b>Activity</b></p>	<p><b>Semester workload</b></p>
	Lectures	13
	Laboratory practice	26
	Study and analysis of bibliography	52
	Autonomous learning	31
	<b>Course total</b>	<b>125</b>

<p style="text-align: center;"><b>STUDENT PERFORMANCE EVALUATION</b></p> <p><i>Description of the evaluation procedure</i></p> <p><i>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</i></p> <p><i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i></p>	<p>The final course grade is calculated as follows:  Assignments: 30%, Multiple choice exam: 30%,  final exam 40%</p>
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## **(5) ATTACHED BIBLIOGRAPHY**

<p>- Suggested bibliography:</p> <ul style="list-style-type: none"> <li>• Σημειώσεις διδάσκοντα</li> <li>• Conole, G. , Designing for Learning in an Open World (2012) Springer</li> <li>• Moodle 2.0 for Teaching 7-14 Year Olds: Beginner's Guide, Mary Cooch, PACKET Publishing (2012)</li> <li>• Julie C. Meloni , Μάθετε HTML 5, CSS και JavaScript Όλα σε Ένα, Χ. ΓΚΙΟΥΡΔΑ &amp; ΣΙΑ ΕΕ (2013), Κωδικός Βιβλίου στον Εύδοξο: 33094833 , ISBN: 978-960-512-658-2</li> </ul> <p>- Related academic journals:</p>
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