

## COURSE OUTLINE

### (1) GENERAL

<b>SCHOOL</b>	ENGINEERING		
<b>ACADEMIC UNIT</b>	INFORMATICS AND COMPUTER ENGINEERING		
<b>LEVEL OF STUDIES</b>	UNDERGRADUATE		
<b>COURSE CODE</b>		<b>SEMESTER</b>	<b>8th</b>
<b>COURSE TITLE</b>	EDUCATIONAL TECHNOLOGY & IT DIDACTICS		
<b>INDEPENDENT TEACHING ACTIVITIES</b> 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	<b>WEEKLY TEACHING HOURS</b>	<b>CREDITS</b>	
Lectures	2		
Practice Exercises	2		
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).	4	5	
<b>COURSE TYPE</b> general background, special background, specialised general knowledge, skills development	Scientific Area, Skills Development		
<b>PREREQUISITE COURSES:</b>			
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	Greek		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>	Yes (English)		
<b>COURSE WEBSITE (URL)</b>			

### (2) LEARNING OUTCOMES

<p><b>Learning outcomes</b> 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</p> <ul style="list-style-type: none"> <li>• Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</li> <li>• Descriptors for Levels 6, 7 &amp; 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</li> <li>• Guidelines for writing Learning Outcomes</li> </ul> <p>The course deals with issues of educational design with emphasis on the use of new information and communication technologies as a as a teaching and learning tool. In this context, traditional and contemporary approaches related to learning theories, instructional models, educational techniques and learning technologies. In addition, specific discussions are provided on issues of teaching approaches related to the specificities of teaching of the subject of computer science. Particular emphasis is given to the role of educational software and web-based learning technology systems in the learning process and examines the pedagogical, didactic, and technical specifications that should govern their design and use in the formulation of criteria for their evaluation. Finally, it presents the European and international standardization actions for the implementation of interoperable learning technology systems.</p> <p>The aim of the course is to acquire knowledge and skills in relation to the conduct of educational planning and organization of the teaching of the subject of information technology, using traditional and modern educational techniques, as well as through the integration of learning technology systems in the context of learning environments.</p> <p>Upon completion of the course, students will be able to:</p> <ul style="list-style-type: none"> <li>• Describe the basic theories of learning and explain the relevant didactic</li> </ul>
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- Describe the theory of learning and explain the relevant teaching models.
- Implement instructional plans and select appropriate instructional strategies and models.
- Use teaching methods appropriate to the teaching of the subject of computing
- Design and implement appropriate learning materials
- Organize evaluation activities of the educational process
- Evaluate educational software with a view to its integration into the learning process, based on principles and good practices of educational software design
- Use and evaluate learning technology systems as essential tools for enriching learning environments and enhancing learning, increasing the range of communication between trainers and learners
- Make use of international standards for learning technologies
- Appreciate research trends in educational technology.

### 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, with the use of the necessary technology	Project planning and management
Adapting to new situations	Respect for difference and multiculturalism
Decision-making	Respect for the natural environment
Working independently	Showing social, professional and ethical responsibility and 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...
	.....

- Autonomous Work
- Teamwork
- Project Planning and Management

### (3) SYLLABUS

- Education & Technology: what is Educational Technology and how it can support teaching and learning (Theories of Learning, Organization of Learning and Teaching)
- Teaching media & new technologies. Communication in e-learning
- Information technology as a learning subject. Teaching approaches in Information Technology
- Digital Educational Content and Educational Metadata
- Online learning environments. E-learning. Design and development of e-learning courses.
- Learning Technology Systems and Standards
- Repositories of Open Educational Resources
- Learning Analytics
- Contemporary research trends in Educational Technology

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

<p style="text-align: center;"><b>DELIVERY</b></p> <p>Face-to-face, Distance learning, etc.</p>	<ul style="list-style-type: none"> <li>• Face to face</li> </ul>															
<p style="text-align: center;"><b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b></p> <p>Use of ICT in teaching, laboratory education, communication with students</p>	<ul style="list-style-type: none"> <li>• Specialised Software (Electronic Systems</li> <li>• Open-Source Learning Systems, Open-Source Authoring Systems Learning Scenarios and Activities)</li> <li>• Support for the learning process through e-learning platform of the</li> <li>• University platform</li> </ul>															
<p style="text-align: center;"><b>TEACHING METHODS</b></p> <p>The manner and methods of teaching are described in detail. 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.</p> <p>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</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Activity</th> <th style="text-align: center;">Semester workload</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Lectures</td> <td style="text-align: center;">26</td> </tr> <tr> <td style="text-align: center;">Individual training project study in educational issues of design</td> <td style="text-align: center;">20</td> </tr> <tr> <td style="text-align: center;">Laboratory exercises</td> <td style="text-align: center;">26</td> </tr> <tr> <td style="text-align: center;">Self-study</td> <td style="text-align: center;">33</td> </tr> <tr> <td style="text-align: center;">Teamwork case study with role assignment for the planning and development of electronic courses in management system using open-source learning system</td> <td style="text-align: center;">20</td> </tr> <tr> <td style="text-align: center;"><b>Course total</b> (25 hours load per credit hour unit)</td> <td style="text-align: center;">125</td> </tr> </tbody> </table>		Activity	Semester workload	Lectures	26	Individual training project study in educational issues of design	20	Laboratory exercises	26	Self-study	33	Teamwork case study with role assignment for the planning and development of electronic courses in management system using open-source learning system	20	<b>Course total</b> (25 hours load per credit hour unit)	125
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<p style="text-align: center;"><b>STUDENT PERFORMANCE EVALUATION</b></p> <p>Description of the evaluation procedure</p> <p>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</p> <p>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</p>	<p>A. Written final examination (60%) including:</p> <ul style="list-style-type: none"> <li>• Multiple-choice questions</li> <li>• Multiple-choice questions (multiple choice)</li> <li>• Multiple-choice essay questions</li> <li>• Short answer questions Traditional and blended environments</li> </ul> <p>B. Presentation of individual and group work</p> <ul style="list-style-type: none"> <li>• (40%)</li> </ul>															

**(5) ATTACHED BIBLIOGRAPHY**

- Suggested bibliography:

1. Athanasios Tzimogiannis, "E-learning", Kritiki Publications, 2017
2. Tsiatsios Thrasybulos, "Educational Internet Environments. Design, development and evaluation, Kallipos, 2015
3. Sophos Alivizos, Avgerinos Eugenios, Karamouzis Polycarpus, Christodoulides. Luisa, Darra Maria, "Education using new technologies", Publications Grigoris, 2017

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4. Newby T.J., Stepich D.,A., Lehman J.D., Russell J.D. "Educational Technology for

Teaching and Learning (translated)", Epikentro Publications, 2009.  
MacDonald J., Blended Learning and Online Tutoring: a Good Practice Guide, Gower,  
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