

COURSE OUTLINE

(1) GENERAL

SCHOOL	School of Humanities		
ACADEMIC UNIT	Department of Primary Education		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	YG0008	SEMESTER	4
COURSE TITLE	Technological and Didactical Innovations: Virtual Reality		
INDEPENDENT TEACHING ACTIVITIES <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>	WEEKLY TEACHING HOURS	CREDITS	
	3	6	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	special background, skills development, lab, mandatory		
PREREQUISITE COURSES:	None		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBSITE (URL)			

(2) LEARNING OUTCOMES

<p>Learning outcomes <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"> • <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i> • <i>Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i> • <i>Guidelines for writing Learning Outcomes</i>
<p>The course aims in giving students insight and perspective on the following.</p> <p>In terms of knowledge:</p> <ol style="list-style-type: none"> 1. To learn about the cutting-edge technologies and their capabilities in supporting the learning process. 2. The categories and the wide range of 3D applications. 3. The software used for developing 3D applications. <p>In terms of their skills:</p> <ol style="list-style-type: none"> 1. To identify hardware and software problems that must be solved when developing 3D applications (as opposed to the less demanding multimedia applications). 2. To identify the critical points that relate to the development of virtual environments and their use by students.

In terms of their competences:

1. To implement the steps required for the development of a 3D application (from concept to implementation).

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?

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

The course aims at the following general competences:

- Adapting to new situations
- Decision-making
- Working independently
- Team work
- Working in an interdisciplinary environment
- Production of new research ideas

(3) SYLLABUS

The course examines how advanced ICT applications are used in the educational process. Specifically, it deals with 3D graphics, multiuser virtual environments and with the educational uses of Virtual Reality.

Virtual Reality is a technological development that significantly affects the ways we can enhance the learning process. The syllabus aims in the development of an in-depth understanding in the ways this can be achieved. The subject is approached both theoretically and practically. The major learning theories are analyzed, various types of software for the development of 3D applications is presented and examples of 3D educational applications are given. In the practical part, by using a relatively simple to use software, students have the opportunity to gain hands-on experiences while developing simple Virtual Reality educational applications.

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Face-to-face using PCs and/or laptops	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>	Yes ICT is the subject of the course	
TEACHING METHODS <i>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. 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>	Activity	Semester workload
	Lectures	30
	Lab exercises	10
	Independent study	70
	Application development	70
	Course total	180
STUDENT PERFORMANCE EVALUATION <i>Description of the evaluation procedure 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 Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i>	<p>The evaluation encompasses the following components:</p> <ol style="list-style-type: none"> 1. Laboratory exercises conducted throughout the semester. 2. Written midterm examination addressing theoretical issues of virtual reality in education. 3. Each student is tasked with designing and implementing an application, either individually or in a small group, utilizing the tools discussed in the lectures. The assessment of this application is based on specific criteria, including the pedagogical, technical, and aesthetic adequacy of the material produced. <p>The successful completion of all the aforementioned activities is a prerequisite for the awarding of academic credits.</p>	

(5) ATTACHED BIBLIOGRAPHY

<p>- Suggested bibliography:</p> <ul style="list-style-type: none"> • Fokides E., & Tsolakidis C. (2011). <i>Εικονική πραγματικότητα στην εκπαίδευση: Θεωρία και πράξη</i> [Virtual reality in education: Theory and practice]. Αθήνα: Εκδόσεις Διάδραση. • Fokides, E., & Atsikpasi, P. (2022). <i>(Πλήρως Εμβυθισμένη) Εικονική Πραγματικότητα, μάθηση και εκπαίδευση</i> [(Fully Immersive) Virtual Reality, learning, and education]. Zygos Publications. • <i>Teachers' documents, tutorials and scientific articles published to Moodle</i> <p>- Related academic journals:</p> <p>Computers and Education International Journal of Game-Based Learning Education and Information Technologies Australasian Journal of Educational Technology</p>
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