

## COURSE OUTLINE

### (1) GENERAL

<b>SCHOOL</b>	School of Humanities		
<b>ACADEMIC UNIT</b>	Department of Primary Education		
<b>LEVEL OF STUDIES</b>	Undergraduate		
<b>COURSE CODE</b>	EF0029	<b>SEMESTER</b>	Fall
<b>COURSE TITLE</b>	Emerging and innovative technologies in 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	4	
<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>	special background, skills development, lab, elective		
<b>PREREQUISITE COURSES:</b>	None		
<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>The course's aim is to give students insights and perspectives on the following.</p> <p>In terms of knowledge:</p> <ol style="list-style-type: none"> <li>1. To know the concepts associated with emerging technologies.</li> <li>2. To know the categories and the wide range of emerging technologies.</li> <li>3. To know the software used to develop applications related to emerging technologies.</li> </ol> <p>In terms of their skills:</p> <ol style="list-style-type: none"> <li>1. To understand the importance of presenting an application and its interface environment.</li> <li>2. To understand the importance of designing navigation in a way that is easily understood by students.</li> <li>3. To be able to implement the steps required from conception to implementation of an application.</li> </ol>

In terms of their competences:

1. To be able to develop educational applications that utilize emerging technologies.

#### 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

In the century we are living in, rapid advancements lead to the emergence of new and innovative technologies that expand beyond the scope of traditional ICTs. These innovative technologies are referred to as "emerging technologies." Examples of emerging technologies include Artificial Intelligence, Nanotechnology, Fully Immersive Virtual Reality, 3D printing, and holograms. Of course, it is not known what other technologies will emerge over time. Emerging technologies gradually penetrate all spheres of human activity, including education. They offer capabilities that support advanced and powerful forms of learning, such as distributed knowledge, immersive learning, diagnostic assessment, psychological immersion, modeling, visualization, and collaboration. Therefore, in modern educational institutions, especially those dedicated to education, emerging technologies must play a crucial role in the development of learners and in the competitive position of both learners and educational institutions. As a result, the course's objective is to communicate to stakeholders the types, applications, benefits, strategic priorities, and advantages of emerging technologies, helping them understand how these technologies support and enhance teaching and learning, thus creating a new educational reality.

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

<b>DELIVERY</b> <i>Face-to-face, Distance learning, etc.</i>	Face-to-face using PCs and/or laptops	
<b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Yes ICTs are the course's subject	
<b>TEACHING METHODS</b> <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>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	10
	Lab exercises	35
	Independent study	30
	Application development	45
	Course total	<b>120</b>
<b>STUDENT PERFORMANCE EVALUATION</b> <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>	Lab exercises during the course of the semester.  Final exam. Students have to design and develop an application, using the software tools provided during the course. The application must have an educational use. Therefore, in addition of evaluating the application, students are invited to present and support the ways their application has educational value (teaching framework, objectives, methodology, etc.) and to explain their choices and the methodology they used during its implementation.	

#### (5) ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

Φωκίδης, Ε., & Ατσικπάζη, Π. (2022). *(Πλήρως Εμβυθισμένη) Εικονική Πραγματικότητα, μάθηση και εκπαίδευση*. Εκδόσεις Ζυγός.

- Related academic journals:

Computers & Education

Computers & Education: X Reality

Education and Information Technologies

Technology, Knowledge, and Learning