

COURSE OUTLINE

(1) GENERAL

SCHOOL	Engineering		
ACADEMIC UNIT	Department of Electrical and Computer Engineering		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	CEID_NΣM05	SEMESTER	9
COURSE TITLE	Interactive Technologies		
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	
Lectures and tutorials, Project work	3 x 13 weeks/2 x 2 weeks	5	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>	TOTAL	5	
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	specialised general knowledge and skills development		
PREREQUISITE COURSES:	Suggested course: Internet programming		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek/English if there is enough number of visiting students		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBSITE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=65		

(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>After completion of this course, the student should be familiar with fundamental principles of human computer interaction and in general human interaction with technology. The student should be aware of current interactive technologies as well as of the principles of design and evaluation of interactive systems. Further objective is to engage students in collaborative design and development of interactive systems through group work.</p> <p>Competences: Design and evaluation of interactive systems following a human-centered design and evaluation approach. The students should be able to compile an evaluation study report according to international standards.</p> <p>Pre-requisites: Good knowledge of technologies and tools for development of interactive systems is</p>

needed, e.g. web development, or java or python.

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>Production of new research ideas</i>	<i>Others...</i>

Search for, analysis and synthesis of data and information, with the use of the necessary technology, Decision-making, Project planning and management, Working independently, team work.

(3) SYLLABUS

1. Introduction, overview of human-computer interaction and design of interactive systems
- 2-4. Methods and rules of interactive systems design, Usability Engineering, Evaluation of interactive systems, Tools and methods of interactive systems specification and prototyping.
- 5-8. Modeling of human as a user of computer system - Cognitive models of perception, attention and memory, knowledge representation and organization, Mental models, cognitive user models, distributed cognitive models. Models of interaction
- 9-12. Interactive technologies - Interaction Style, Physical Man-machine interfaces, Haptic interaction, Introduction to collaborative technology and technology for people with disabilities

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Face to face	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>	Learning management system used: eclass Cloud-based resources : wireframe prototyping tools.	
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.</i>	Activity	Semester workload
<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>	Lectures and tutorials	39
	Personal study	50
	Group project work	45
	Examinations	4
	Course total	138
	Lectures (2 hours per week) using slides, including tutorials during which typical problems are solved while students are asked to solve problems either individually or in small groups. Similar problems are given to solve during the tutorial or at home. Finally, an interactive application evaluation and re-design problem is tackled during project group work in groups of 2-3 students.	

<p style="text-align: center;">STUDENT PERFORMANCE EVALUATION</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>Final Written Examination. The students who are eligible for the final examination participate in a 2-hour test. In the event of failure, students are allowed to take part in the resit exam of September. The final exam may involve 24 hour take home essay preparation to be submitted and presented orally, on an issue related to one of course topics. The final grade of the course is based on the following grades: The final examination (TH), The grade of teamwork-project (PR), Tutorials (TU). Final course grade = TH * 0,6 + TU * 0,2 + PR * 0,3 This formula applies only if the grade of final theoretical examination is >= 4.</p>
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(5) ATTACHED BIBLIOGRAPHY

- Suggested bibliography: textbook:

- Ν. Αβούρης, κ.α. Εισαγωγή στην Επικοινωνία Ανθρώπου-Υπολογιστή, Εκδόσεις Πανεπιστημίου Πατρών, Πάτρα 2016.
- online resoues (tutorials and cloud resources)