COURSE OUTLINE

(1) GENERAL

SCHOOL	Social Sciences		
ACADEMIC UNIT	Cultural Technology and Communication		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	PLR146	**SEMESTER**	7th
COURSE TITLE	Human Computer Interaction		

INDEPENDENT TEACHING ACTIVITIES *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*	**WEEKLY TEACHING HOURS**	**CREDITS**
Lectures	3	6
Laboratories		
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).	3	6

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Compulsory Selection / Special Background
PREREQUISITE COURSES:	Human Computer Interaction
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.aegean.gr/courses/131425/

(2) LEARNING OUTCOMES

Learning outcomes

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

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

At the end of this course, the students will be able to:

- Design advanced intelligent and multimodal interfaces
- Define the architecture advanced interactive systems
- Specify related technical specifications
- Apply and combine techniques and methods of Artificial Intelligence and Machine Learning in order to enrich interactive systems with dynamic behavior
- Model and integrate user characteristics in order to formulate an optimal user experience.
- Evaluate the usability and aspects of the user experience.

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

Respect for difference and multiculturalism

Adapting to new situations *Decision-making* *Working independently* *Team work* *Working in an international environment* *Working in an interdisciplinary environment* *Production of new research ideas*	*Respect for the natural environment* *Showing social, professional and ethical responsibility and sensitivity to gender issues* *Criticism and self-criticism* *Production of free, creative and inductive thinking* *……* *Others…* *…….*

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Working in an interdisciplinary environment
- Production of free, creative and inductive thinking
- Transfer of know-how in other environments
- Working independently
- Practice Critical Thinking
- Collaboration and teamwork
- Search, analysis and synthesis of knowledge
- Promoting creative and inductive thinking
- Knowledge and know-how to other environments

(3) SYLLABUS

The course consists of the following sections:

1. Introduction to advanced and natural interfaces and Intelligent Interaction systems and technologies
2. User experience and interaction design
3. Affective Computing
4. Intelligent Interaction
5. Virtual and Mixed Reality Interaction
6. Haptic and multi-touch interfaces and technologies (e.g. multi-touch interactive tables)
7. Projection mapping systems
8. Gamified interaction
9. Brain-computer interfaces
10. Personalization and adaptive interaction
11. Recommender systems and persuasive technologies
12. Ubiquitous and mobile interaction
13. Interaction with context awareness

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face-to-face supported by Distance learning infrastructure and approaches.
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Online and open source software for communication with students.
TEACHING METHODS	

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*	**Activity** / **Semester workload** Lectures — 13 *3 hours =39 hours Lectures' study — 13*7 hours = 91 hours Laboratory Practice — Laboratory Preparation and semester assignment — 24 hours — Course total — 154 hours
STUDENT PERFORMANCE EVALUATION *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.*	The final examination is carried out through the elaboration and mandatory presentation of a project on the design and evaluation of advanced interactive systems. The topic of the project is chosen by the students during the semester after its basic topics are presented and is monitored and supported during the laboratory sessions. The evaluation criteria are clearly stated during the first lecture and depicted in the educational material offered in the course's e-class.

(5) ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

- Κουτσάμπασης Παναγιώτης, Αλληλεπίδραση Ανθρώπου-Υπολογιστή «Αρχές, μέθοδοι και παραδείγματα», 2011, ΕΚΔΟΣΕΙΣ ΚΛΕΙΔΑΡΙΘΜΟΣ ΕΠΕ, Κωδικός Βιβλίου στον Εύδοξο: 12279101, ISBN: 978-960-461-439-4
- Αβούρης Νικόλαος , (2000). ΕΙΣΑΓΩΓΗ ΣΤΗΝ ΕΠΙΚΟΙΝΩΝΙΑ ΑΝΘΡΩΠΟΥ ΥΠΟΛΟΓΙΣΤΗ. ΕΚΔΟΣΕΙΣ: ΔΙΑΥΛΟΣ Α.Ε., ΑΘΗΝΑ, ISBN: 978-960-531-098-1. (ΑΡ. ΕΥΔΟΞΟΣ, 12172).
- DIX, FINLAY, ABOWD, BEALE, (2007). ΕΠΙΚΟΙΝΩΝΙΑ ΑΝΘΡΩΠΟΥ-ΥΠΟΛΟΓΙΣΤΗ 3η ΕΚΔΟΣΗ. ΕΚΔΟΣΕΙΣ: Γκιούρδας Μ. , ΑΘΗΝΑ, ISBN: 960 512 503Χ. (ΑΡ. ΕΥΔΟΞΟΣ, 12304).
- Κωνσταντίνος Χωριανόπουλος, Ο Προγραμματισμός Της Διάδρασης, Κορφιάτης, 2016, ΑΡ. ΕΥΔΟΞΟΣ, 68371436
- Yvonne Rogers, Helen Sharp, Jenny Preece, Σχεδίαση Διαδραστικότητας 3η Έκδοση, ΓΚΙΟΥΡΔΑ, 2013, 978-960-512-6506, 33133359
- Shneiderman Ben, Plaisant Cathrerine, Σχεδίαση Διεπαφής Χρήστη, ΤΖΙΟΛΑ , 2010, 978-960-418-256-5, 18548663
- Dix, A. (2009). Human-Computer Interaction. In: LIU, L., ÖZSU, M.T. (eds) Encyclopedia of Database Systems. Springer, Boston, MA. https://doi.org/10.1007/978-0-387-39940-9_192
- Nardi, B. A. (Ed.). (1995). Context and consciousness: activity theory and human-computer interaction. mit Press, ISBN: 9780262280419, https://doi.org/10.7551/mitpress/2137.001.0001
- Αβούρης, Ν., Κατσάνος, Χ., Μουστάκας, Κ., Τσέλιος, Ν., (2016). Εισαγωγή στην Αλληλεπίδραση Ανθρώπου - Υπολογιστή (2η έκδοση), ISBN: 978-960-530-165-1 .

- Related scientific magazines:

- ACM Transactions on Interactive Intelligent Systems
- ACM Transactions on Computer-Human Interaction

- Journal on Multimodal User Interfaces, Springer
- IEEE Transactions on Human-Machine Systems
- IEEE Transactions on Affective Computing
- Personal and Ubiquitous Computing, Springer
- User Modelling and User-Adapted Interaction, Springer
- Pervasive and Mobile Computing, Elsevier
- Computer Supported Cooperative Work, Springer
- International Journal of Human–Computer Interaction, Taylor & Francis
- IEEE Transactions on Cybernetics