COURSE OUTLINE

(1) GENERAL

SCHOOL	Engineering		
DEPARTMENT	Electrical and Computer Engineering		
LEVEL OF STUDY	Undergraduate		
COURSE UNIT CODE	8.014	**SEMESTER**	8th
COURSE TITLE	Usability Engineering		

COURSEWORK BREAKDOWN	**TEACHING WEEKLY HOURS**	**ECTS Credits**
Theory (Lectures)	3	3
Tutorial/ Exercises	2	1
TOTAL	5	4

COURSE UNIT TYPE	Specialized knowledge/Consolidation
PREREQUISITES	Human Computer Interaction
LANGUAGE OF INSTRUCTION/EXAMS	Greek/English
COURSE DELIVERED TO ERASMUS STUDENTS	Yes
WEB PAGE (URL)	https://eclass.hmu.gr/courses/ECE140

(2) LEARNING OUTCOMES

Learning Outcomes

Upon successful completion of the course students will be able to know, understand and apply techniques for designing and evaluating the usability of devices and systems, with an emphasis on human-machine interface. In particular, students will be able to:

- know and understand models of human behavior and methods of measuring and evaluating usability
- understand, organize and evaluate usability inspections with heuristic evaluations, cognitive walkthroughs and other relevant expert evaluation methods
- know, understand and apply automated assessment models for usability comparisons testing
- organize, conduct and evaluate comprehensive usability tests with real users in both the laboratory and in the open field
- know and understand specific usability issues such as intercultural usability, usability of special groups of people, usability of special devices etc.

General Skills

Successful completion of the course will promote general skills including:

- Search, analysis and synthesis of data and information
- Work in an interdisciplinary environment
- Decision making
- Autonomous work and Teamwork
- Project design and management

(3) SYLLABUS

- Introductory concepts, historical evolution
- Essential principles and laws of usability
- Models of human behavior
- Usability measurement and evaluation methods
- Usability testing (organization, conduct, evaluation)
- Usability inspections, heuristic evaluation, cognitive walkthrough
- Automated evaluation computer models (GOMS)
- The economic dimension of usability
- Special usability issues (Internationalization, intercultural usability, usability of special groups of people, usability of special devices)
- Beyond usability (User experience, aesthetics, reliability and more)

(4) TEACHING METHODS - ASSESSMENT

MODE OF DELIVERY	In-Class Face-to-Face
USE OF INFORMATION AND COMMUNICATION TECHNOLOGY	• Use of ICTs in lecturing • Use of ICTs in laboratory-based training • Use of ICTs for the communication with students via the e-class platform • Support of the educational process via the e-class platform
TEACHING ORGANISATION	

Method description / Activity	**Semester Workload**
Lectures	39
Tutorials/Exercises	16
Projects	35
Non-guided personal study	30
Total Contact Hours	**120**

ASSESSMENT METHODS	• Exercises / Personal projects (35%) • Team project at the end of semester (25%) • Written final exam (40%) Assessment Language : Greek/English

(5) RECOMMENDED BIBLIOGRAPHY

- *Class Notes*
- *Κουτσαμπάσης, Παναγιώτης, Αξιολόγηση διαδραστικών συστημάτων με επίκεντρο τον χρήστη ISBN: 978-960-603-086-4 www.kallipos.gr*
- *Jenny Preece , Helen Sharp , Yvonne Rogers Interaction Design: Beyond Human-Computer Interaction, 2015, 4th Edition, John Wiley & Sons Ltd*

- *Don Norman, The Design of Everyday Things Revised and Expanded Edition 2013*
- *Steve Krug, Don't Make Me Think, Revisited: A Common Sense Approach to Web Usability (3rd Edition) 2014*
- *Jakob Nielsen, Usability Engineering, published by Morgan Kaufmann, San Francisco, 1994.*
- *Alan Cooper, About Face 3: The Essentials of Interaction Design, RobertReimann, David Cronin, John Wiley & Sons Publishing, 2007*
- *The Human-Computer Interaction Handbook: Fundamentals, Evolving Technologies and Emerging Applications" Andrew Sears, Julie A. Jacko CRC Press 2008*

Internet Portals

- *Usability Professionals Association*
- *Usability.gov*
- *The Nielsen- Norman Group: Jakob Nielsen and Don Norman*
- *The Web Accessibility Initiative Guidelines*
- *Usability First*
- *The National Institute of Standards and Technology*
- *The IBM Guidelines for accessibility of websites*
- *The Web Metrics Tool Suite*
- *W3C Web Accessibility Initiative Guidelines*