ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
Εθνικόν και Καποδιστριακόν
Πανεπιστήμιον Αθηνών
ΙΔΡΥΘΕΝ ΤΟ 1837

DEPARTMENT OF INFORMATICS & TELECOMMUNICATIONS

INSTITUTION	NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS						
SCHOOL	SCHOOL OF SCIENCE						
DEPARTMENT	INFORMATICS AND TELECOMMUNICATIONS						
COURSE LEVEL	UNDERGRADUATE						
COURSE TITLE	**Human-Computer Interaction**						
COURSE CODE	**ΥΣ08**		Semester	7	ECTS	6	
TEACHING HOURS per week	THEORY	3	SEMINAR.	1	LABORATORY	0	
COURSE TYPE	**Select one of the following and delete the rest** Elective (ΠΜ)						

K	E1	E2	E3	E4	E5	E6	
A		B	B		E	E	

URL	https://eclass.uoa.gr/courses/D54/
EXPECTED PRIOR KNOWLEDGE/ PREREQUISITES AND PREPARATION:	Prerequisite K29 Design and Use of Database Systems
TEACHING AND EXAMINATIONS LANGUAGE:	GREEK
THE COURSE IS OFFERED TO ERASMUS STUDENTS	NO

COURSE CONTENT

The course covers the principles of human-computer interaction and the user-centered design, development and evaluation of user interfaces. Specifically, topics include an overview of human information processing subsystems (visual, aural and tactile perception, memory, attention, and problem solving); the Gestalt principles; metaphors and analogies; predictive models for interface design (GOMS, KLM); interaction design concepts and elements (e.g. Fitts' Law); human factors and ergonomics; basic concepts in heuristic evaluation with known heuristics (e.g. by Nielsen); user centered iterative design life cycle: personas, user needs analysis and functional specifications Hierarchical Task Analysis, low and high fidelity prototyping, wireframes, storyboards; Usability engineering and usability evaluation techniques; User interface development tools and frameworks: HTML, Javascript, PhP. Information Visualization; Future and innovative interfaces such as virtual and augmented reality.

STUDENT LEARNING OBJECTIVES

To introduce students to the field of human-computer interaction (HCI) and the design, development and evaluation of user interfaces.

Upon successful completion of the course the student will be able to:
- Analyze user interfaces and perform Heuristic Evaluation using heuristics proposed by J. Nielsen and other researchers and practitioners.
- Recognize the basic characteristics of human perception and memory, and how these impact interaction with computers, using the Gestalt design principles, and human modeling and prediction methods such as GOMS and KLM.
- Define user "personas" and describe the user's flow of tasks in use case scenarios.
- Elicit and analyze user requirements and define the respective functional specifications of an interactive system.
- Create sitemaps, low fidelity & high fidelity wireframes and storyboards for web-based user interfaces.
- Recognize the basic design elements for mobile user interfaces and the principles of responsive design.
- Develop complete web applications using HTML, Javascript, PhP or other frameworks.
- Define the basic information visualization steps and design interactive visualizations.

TEACHING AND LEARNING METHODS - ASSESSMENT	
TEACHING METHOD	In Class (Face to Face)
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Learning process supported through the use of the e-class platform (Teaching material; Announcements; Discussions on projects and laboratory assignments; Task assignments; Student groups; External links and related resources) Email communication Live transmission of lectures Ability to view recorded lectures Programming support via laboratory seminars
TEACHING ORGANIZATION *Describe in detail the way and methods of teaching:* *Enhanced Lectures,* *Online Lectures,* *Seminars,* *Tutorial,* *Laboratory,* *Laboratory Exercise,* *Study & analysis of literature,* *Practice (Positioning),* *Interactive teaching,* *Developing a project,* *Individual / group work* *Telework (reference to tools) etc.* *Details of the student's study hours for each learning activity and hours of non-guided study are shown to ensure that the total workload at the semester corresponds to the ECTS*	The theoretical part of the syllabus is carried out through lectures in class, using multiple media. Several practical hands-on activities in the form of seminars complement the lectures and provide support for the mandatory project. The course includes a semester-long team project, in groups of 2-3, which consists of three parts: 1. The Heuristic Evaluation of an existing website using Nielsen's usability heuristics, 2. Redesign of the evaluated web interface by a) user scenarios with personas, b) Hierarchical Task Analysis, User Needs Analysis and Functional Specifications, c) Low fidelity wireframes, prototypes, and storyboards, and 3. Web interface development. The project teams are supported through seminars and e-class discussions.
	Activity / ***Student Workload*** *(hours)*

COURSE SYLLABUS

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	Lectures (physical presence)	39
	Seminars (physical presence)	13
	Group project #1 (team of 2-3)	12
	Group project #2 (team of 2-3)	28
	Group project #3 (team of 2-3)	38
	Independent Study	20
	Total Course ***(25 hours of workload per unit of credit)***	***150***

ASSESSMENT OF STUDENTS *Description of the assessment process* *Assessment Methods, Formative or Concluding, Multiple Choice Test, Quick Response Questions, Test Development Questions, Problem Solving, Written Work, Report / Report, Oral Examination, Public Presentation, Laboratory Work, Other / Other* *Fully defined evaluation criteria are mentioned and if and where they are accessible to students.*	Evaluation of theory by written examination and design and programming by a compulsory project consisting of 3 parts. Grade Feedback is given in the written examination at the level of questions. In the project a rubric is given and feedback is provided accordingly with explanations in case of missing grades.

Assessment methods	Number	Percentage
Written examination	1	50%
Group project #1	1	10%
Group project #2	1	16%
Group project #3	1	24%

LITERATURE AND STUDY MATERIALS / READING LIST

1. Avouris, N., Katsanos, C., Tselios, N., & Moustakas, K. (2016). *Introduction to Human Computer Interaction.* Patra: University of Patras Press. In Greek.
2. Shneiderman, B., Plaisant, C., Cohen, M., & Jacobs, S. (2009). *Designing the User Interface: Strategies for Effective Human-Computer Interaction* (5 edition). Addison Wesley. Translated in Greek.

Notes, presentations, tutorials on programming and tools are provided on e-class.