COURSE OUTLINE

1. GENERAL

SCHOOL	APPLIED SCIENCES		
DEPARTMENT	DIGITAL MEDIA AND COMMUNICATION		
LEVEL OF STUDY	UNDERGRADUATE		
COURSE UNIT CODE	DMC 638	**SEMESTER OF STUDY**	6th
COURSE TITLE	INTERACTIVE COMMUNICATION		

COURSEWORK BREAKDOWN	**TEACHING WEEKLY HOURS**	**ECTS Credits**
Lectures	3	
Practice - Workshops	2	
Lab exercises	2	
Total	7	8

COURSE UNIT TYPE	Compulsory, Course Specialization
PREREQUISITES :	DMC 325
LANGUAGE OF INSTRUCTION/EXAMS:	GREEK
COURSE DELIVERED TO ERASMUS STUDENTS	Yes (in English)
MODULE WEB PAGE (URL)	http://elearn.teikoz.gr/course/view.php?id=87

2. LEARNING OUTCOMES

Learning Outcomes

The course focuses on the impact of new technologies to human-computer communication, focusing especially to the effective design of interactive application through the principles of the HCI science. The content of the course covers an interdisciplinary field that is related to the design, evaluation and implementation of interactive systems combined with studies of the effect of various social and cognitive phenomena that are related with theories from psychology, sociology, computer science, artificial intelligence, cognitive science, etc, targeting to the effective design of interactive applications. Students have the opportunity to explore issues in human-computer interaction that affect the design of interactive applications. The lab part of the course focuses on advanced themes on integrated website development and interactive web content creation combining theory of the course and skills from DMC325 course

Upon successful completion of the course the students must be able to:

1. Assess the importance of the HCI field in designing effective interactive content.
2. Assess the important factors that impact to designing effective HCI
3. Design effective interactive content by applying principles, guides, methods and techniques for the development of user-centered implementation approaches.
4. Evaluate and create evaluation studies for interactive systems by using the appropriate metric systems
5. Explore the effectiveness of interaction in various computer applications and various interactive systems of other users.
6. Apply good practices and HCI methods in interactions with other users or target groups.

General Skills

- Individual Work
- Teamwork
- Critical thinking

- Decision-making
- Working in interdisciplinary field
- Free, creative and inductive thought
- Search, Analysis and Synthesis of data and information with the use of necessary technologies.
- Adaptation to new situations
- Design and Implementation of projects
- Generating new research ideas

3. COURSE CONTENTS

- Human Computer Communication
- Interaction
- Interaction Models
- Ergonomics and Interaction
- Paradigms for Interaction
- The interaction design process
- Usability Engineering
- Principles to support usability
- Evaluation Techniques
- Multimodal Interaction
- Designing User support systems
- Ubiquitous Computing Applications
- Rich Interaction
- Future Trends in HCI
- Case Studies

4. TEACHING METHODS - ASSESSMENT

<table>
<tr><td>MODE OF DELIVERY</td><td>In-Class</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATION TECHNOLOGY</td><td>Students work in advanced themes on integrated website design and creation of interactive content.

Support of the learning process through multimedia video-lessons.

Support of the learning process through the e-class platform.</td></tr>
<tr><td>TEACHING METHODS</td><td>
<table>
<tr><th>Method description</th><th>Semester Workload</th></tr>
<tr><td>Lectures</td><td>39</td></tr>
<tr><td>Lab Exercises</td><td>26</td></tr>
<tr><td>Practice - Workshops</td><td>26</td></tr>
<tr><td>Project Work (non-compulsory)</td><td>44</td></tr>
<tr><td>Personal Study</td><td>65</td></tr>
<tr><td>Total Work Load for student with project work</td><td>200</td></tr>
<tr><td></td><td></td></tr>
<tr><td>Lectures</td><td>39</td></tr>
<tr><td>Lab Exercises</td><td>26</td></tr>
<tr><td>Practice - Workshops</td><td>26</td></tr>
<tr><td>Personal Study</td><td>109</td></tr>
<tr><td>Total Work Load for student with project work</td><td>200</td></tr>
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<tr><td>ASSESSMENT METHODS</td><td>i. End of Semester Formal Examination (60-35%)
- Short answer questions
- Essay questions
- Questions of solving communication problems.</td></tr>
</table>

	II. Presentation of Group Projects (0-25%) iii. Lab examination 40 %

5. RESOURCES

- Recommended Book Resources:

- Alan Dix, Janet Finlay, Gregory Abowd, Russell Beale (2012), Human-Computer Interaction, M. Gkourdas Press (in Greek)
- J.J. Garrett (2011). The Elements of User Experience: User-Centered Design for the Web, New Technology Publication (in Greek).
- Koutsampasis P. (2011),Human-Computer Interaction: Principles, Methods and Examples, Kleidarithmos Publications
- Shneiderman Ben, Plaisant Cathrerine (2010) User Interface Design: Strategy for Effective Human-Computer Communication, Tziola Press.
- Scott, Neil (2009) Designing Web Interfaces: Principles and Patterns for Rich Interactions, O'Reilly Media
- Tidwell (2011) Designing Interfaces, O Reilly Media.
- Sharp, Rogers, Preece (2011). Interaction Design: Beyond Human-Computer Interaction, John Wiley & Sons.
- Benyon (2010). Designing Interactive Systems: A Comprehensive Guide to HCI and Interaction Design, Addison Wesley.
- Barnum (2010). Usability Testing Essentials: Ready, Set … Test . Morgan Kaufmann Publishers

-Recommended Papers/Articles:

- G. Lappas, P, Yannas (2012). "An Evaluation Framework for MPs Websites: The Case of Greek Members of Parliament", in Sobaci (ed.) *E-Parliament and ICT-Based Legislation: Concept, Experiences and Lessons,* Information Science Reference, pp 144-163
- Dix A. (2010) Human–computer interaction: A stable discipline, a nascent science, and the growth of the long tail, Interacting with Computers, 22 (1):13-27.
- Grudin, J. (2012) A Moving Target: The evolution of Human-computer Interaction. In J. Jacko (Ed.), *Human-computer interaction handbook: Fundamentals, evolving technologies, and emerging applications. (3rd edition).* Taylor & Francis.
- Carroll, John M. (2013): Human Computer Interaction - brief intro. In: Soegaard, Mads and Dam, Rikke Friis (eds.). "The Encyclopedia of Human-Computer Interaction, 2nd Ed.". Aarhus, Denmark: The Interaction Design Foundation. Available online at http://www.interaction-design.org/encyclopedia/human_computer_interaction_hci.html
- Shaer, O. and Hornecker, E. (2010) Tangible User Interfaces: Past, Present, and Future Directions. *Found. Trends Hum.-Comput. Interact.* 3, 1-2 (January), 1-137.
- Waller V. and Johnston, R.B. (2009) Making ubiquitous computing available. *Commun.*

ACM 52, 10 (October 2009), 127-130.

- Daniel Fallman. (2011). The new good: exploring the potential of philosophy of technology to contribute to human-computer interaction. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (CHI '11). ACM, New York, NY, USA, 1051-1060.
- Daniele Miorandi, Sabrina Sicari, Francesco De Pellegrini, Imrich Chlamtac (2012) Internet of things: Vision, applications and research challenges, Ad Hoc Networks, Volume 10, Issue 7, September 2012, Pages 1497-1516,
- Kranz, M., Holleis, P., Schmidt, A. (2010) Embedded interaction: Interacting with the internet of things. IEEE Internet Computing 14 (2010) 46–53.
- Kranz M, Roalter L, Michahelles F. (2010) Things that twitter: social networks and the internet of things. In: Proceedings of the eighth international conference on pervasive computing (pervasive 2010), what can the internet of things do for the citizen (CIoT) workshop;
- *ACM Transactions on Computer-Human Interaction*
- *Human-Computer Interaction Journal (Taylor and Francis)*