

COURSE OUTLINE

(1) GENERAL

SCHOOL	Engineering		
DEPARTMENT	Electrical and Computer Engineering		
LEVEL OF STUDY	Undergraduate		
COURSE UNIT CODE	9.023	SEMESTER	9 th
COURSE TITLE	Collaborative technologies and systems		
COURSEWORK BREAKDOWN		TEACHING WEEKLY HOURS	ECTS Credits
Theory (Lectures)		2+1	3
Tutorial/Exercises		2	1
TOTAL		5	4
COURSE UNIT TYPE	Specialized knowledge/Consolidation		
PREREQUISITES			
LANGUAGE OF INSTRUCTION/EXAMS	Greek and English		
COURSE DELIVERED TO ERASMUS STUDENTS	yes		
WEB PAGE (URL)	https://eclass.hmu.gr/courses/ECE157/		

(2) LEARNING OUTCOMES

Learning Outcomes
<p>The course belongs to the cluster of courses addressing human centered computing and aims to introduce students to a range of issues regarding</p> <ul style="list-style-type: none"> • The concept of computer-mediated collaboration and the special requirements presented by classic and more advanced collaborative tasks • Analysis of synchronous collaborative systems with regards to architectural commitments, their functional components and the underlying services • Application of selected techniques for the design of computer-mediated collaborative tasks using suitably designed artefacts • Exploitation of modern frameworks and state of the art platforms for prototyping collaborative components such as session managers, floor control and group awareness
General Skills
<p>Successful completion of the course will promote general skills including</p> <ul style="list-style-type: none"> • Teamwork in framing, understanding and tackling collaborative computing • Searching, analysing and conceptualizing solutions • Decision making given options in a design space • Development of presentation skills and argumentative discourse

(3) SYLLABUS

<p>Three general sections:</p> <ul style="list-style-type: none"> ▪ Theoretical frames of reference which make provisions for the study of collaborative performances using computing devices. Emphasis is both on cognitive theories and theories of artefacts. ▪ Understanding emerging structures resulting from collaborative engagements of users / teams / organization. Special interest is on virtual teams, online communities, virtual communities of practice and cross-organizational structures
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- Analytical techniques for the study of computer-mediated collaboration. Special interest is on digital footprint analysis, social bookmarking and qualitative methods for analysis

In the laboratory students become acquainted with selected libraries, frames of reference and services for designing and implementing collaborative constructs including session managers and floor control but also making provisions for advanced requirements such as awareness, transparency, etc.

(4) TEACHING METHODS - ASSESSMENT

MODE OF DELIVERY	In-Class Face-to-Face													
USE OF INFORMATION AND COMMUNICATION TECHNOLOGY	<ul style="list-style-type: none"> Use of ICTs in lecturing Use of ICTs for the communication with students via the e-class platform 													
TEACHING ORGANIZATION	<table border="1"> <thead> <tr> <th>Method description/Activity</th> <th>Semester Workload</th> </tr> </thead> <tbody> <tr> <td>Lectures</td> <td>39</td> </tr> <tr> <td>Project (journal/paper reading and theoretical study)</td> <td>26</td> </tr> <tr> <td>Tutorials</td> <td>32</td> </tr> <tr> <td>Non-guided personal study</td> <td>30</td> </tr> <tr> <td>Total Contact Hours</td> <td>120</td> </tr> </tbody> </table>		Method description/Activity	Semester Workload	Lectures	39	Project (journal/paper reading and theoretical study)	26	Tutorials	32	Non-guided personal study	30	Total Contact Hours	120
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ASSESSMENT METHODS														
<p>The course grade is based on written examination (50 %) and laboratory work (50%). The written exam is structured as follows:</p> <ol style="list-style-type: none"> Part A (50 %) includes five (5) questions aiming to assess the students' understanding of key theoretical concepts and constructs. The response to each question is typically short but may require critical thinking) Part B (50 %) presents three (3) design challenges of comparable complexity. Students are required to select and solve two (out of the three challenges). Each challenge may be split into sub-challenges, thus covering a range of topics. <p>The laboratory entails assessment of individual exercises and a group project which presented in class.</p>														

(5) RECOMMENDED BIBLIOGRAPHY

-Recommended Bibliography:

- *The Encyclopedia of Human-Computer Interaction, 2nd Ed.*
- *J. Jacko & A. Sears Eds., (2003): The Human-Computer Interaction Handbook: Fundamentals, Evolving Technologies and Emerging Applications, Routledge.*
- *N. Avouris (2000): Human Computer Interaction, Diavlos Publishing.*
- *Instructors' notes*

Relevant Scientific Journals:

- *ACM Transactions on Computer Human Interaction*
- *Human Computer Interaction*
- *International Journal of Human Computer Interaction*