

Subject code	Credits
INF3005	6

Title

KOMPIUTERIO IR VARTOTOJO S SAJA

Title in English

HUMAN - COMPUTER INTERACTION

Subject goal and annotation

The course presents theoretical and practical fundamentals of human computer interaction and user interface design, usability and user-oriented design principles, conceptual interaction models, impact of human factors. Students learn to understand user needs, determine and specify the requirements, make user interface, build their prototypes, evaluate final product. After finishing the course, students will be able to apply user-oriented design principles in practice.

Prerequisites

Undergraduate courses: software engineering basics

Relationship between the learning outcomes of the Programme and learning outcomes of the subject

Learning outcomes of the Programme	Learning outcomes of the subject	Criteria for measuring the achievement of learning outcomes
3.Knowledge of basic and advanced computer science and its application.	Knowledge and understanding of formal user computer interaction design principles	Student demonstrates skills in using user interface prototyping systems and the ability to analyse and create user interface prototypes.
4.Knowledge of basic and advanced multimedia theories and applications, ability to apply it. 6.Knowledge of Internet and multimedia products development, their commercial and social impact. 15. Clear and convincing presentation of problems and solutions to experts and non-experts using ground knowledge, reasoning, relevant presentation tools and methods.	The ability to understand human cognitive capabilities and limitations, and use this knowledge in the development of Internet and multimedia product interface.	Student analyses Internet and multimedia products and evaluates them in terms of graphical design principles. Students make an application interface prototype in groups and present them.
18. Critical analysis of Internet and multimedia projects context and their influence to business, culture and society.	Ability to evaluate and adapt the principles of usability.	Student analyzes web pages and evaluates them in terms of usability.
19. Fast and efficient adaptation to the quickly changing cultural, economical and technological environment.	Ability to identify and define user needs and select an appropriate user interface model.	Student demonstrates the ability to formulate user interface requirements for a system and select an appropriate user interface model.

Subject content

	Lecture topics and contents	Hours
1.	Introduction to the theory of human computer interaction.	3
2.	Usability: interface evaluation, usability analysis.	6
3.	Human cognitive capabilities influencing the development of the user interface. Sensory and motor systems, information processing, memory.	6
4.	User interface conceptual models.	3
5.	Computer-user interface development: goals, requirements, standards and recommendations.	6

7.	Prototypes, content diagrams. Prototyping software.	6
8.	User involvement in the interface development process, user behaviour modelling.	3
9.	Personal computer application UI design recommendations	3
10.	Internet application UI design recommendations	3
10.	Mobile Application UI design recommendations	3
11.	Artificial intelligence and language technology using in user interface	3
Total		45

Practical work contents

Six practical works in class and user interface design and evaluation project. Practical work and project should be presented and described.

1. Bad user interface analysis.
2. Conceptual models of user interfaces
3. Human cognitive capabilities.
4. User interface evaluation questionnaires.
5. Website evaluation based on C.R.A.P. methodology.
3. Website customization for mobile phone.

Evaluation of study results

Final written exam (50%), mid-term written exam (17%), and assessments of laboratory (practical) work (33%).

Distribution of subject study hours

Lectures	45
Laboratory work	30
Individual studies (including studies in groups, preparation for the mid-term and final exams)	87
Total	162

Recommended literature

No	Authors of publication and title	Number of copies available		
		<i>in the Library of VMU</i>	<i>in specialized publication collections at VMU</i>	<i>in other libraries</i>
Basic materials				
1.	http://www.zainbooks.com/books/computer-sciences/human-computer-interaction.html Zainbooks.com			Free on internet
2.	A. Dix, J. Finlay, G.D. Abowd, R. Beale. Human Computer Interaction. Prentice Hall, 2004.	1	1	
3.	D.Stone, C.Jarrett, M. Woodroffe, S. Minocha. User interface design and evaluation, Elsevier, Inc. 2005		1	
Supplementary materials				
1.	D. Benyon, Designing interactive systems, Pearson 2010	1		
2.	M. Jones, G.Marsden. Mobile interaction design. John Wiley & Sons, 2006	1		

Subject prepared and coordinated by

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