FACULTY W-8 / DEPARTMENT………………

SUBJECT CARD

Name in Polish …*Wytwarzanie interfejsu użytkownika*
Name in English *User Interface Development*
Main field of study (if applicable): Computer Science
Specialization (if applicable): ……………………..
Level and form of studies: 1st level, full-time
Kind of subject: optional
Subject code INZ0290Wl
Group of courses YES

	Lecture	Classes	Laboratory	Project	Seminar
Number of hours of organized classes in University (ZZU)	30		30		
Number of hours of total student workload (CNPS)	60		90		
Form of crediting	Examination / crediting with grade	Examination / crediting with grade*	crediting with grade	Examination / crediting with grade*	Examination / crediting with grade*
For group of courses mark (X) final course	X				
Number of ECTS points	2		3		
including number of ECTS points for practical (P) classes			2		
including number of ECTS points for direct teacher-student contact (BK) classes	1,2		1,8		

*delete as applicable

PREREQUISITES RELATING TO KNOWLEDGE, SKILLS AND OTHER COMPETENCES
1. Basic knowledge in designing of software systems
2. Ability to read with under standing scientific and technical Texas in English.
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SUBJECT OBJECTIVES
C1 To familiarise students with the basis of Cognitive Psychology that are necessary for good understanding of Human Computer Interaction.
C2 To make students aware of the importance of the notion of the software system usability and importance of usability for the overall quality of the software system.
C3 To familiarise students with the overall process of software systems development in way focused on achieving high quality in the domain of usability.
C4. To present methods and techniques for complex usability evaluation.

SUBJECT EDUCATIONAL EFFECTS

relating to knowledge:

PEK_W01 Students know basic notions and techniques from the domain of applications of Cognitive Psychology in Human Computer Interaction.

PEK_W02 Students know basic set of good practices in the area of user interface designing.

PEK_W03 Students know basic models of the processes of interactive system design and interactive system usability assessment.

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relating to skills:

PEK_U01 Students are able to perform context of use analysis for an interactive system.

PEK_U02 Students have ability to plan and monitor a process of user interface development.

PEK_U03 Students are equipped to design user interface.

PEK_U04 Students know how to plan a process of usability assessment, to perform it and to draw conclusions related to the necessary changes in the system which has been evaluated.

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relating to social competences:

PEK_K01 Students are able to cooperate in a team which is developing a software system, in situation in which the team members responsible for the system usability are appointed.

PEK_K02 Students are aware of the influence made by the software system on the work and life environment of the users and understand the importance of the software system usability situated in this context.

PROGRAMME CONTENT

Form of classes - lecture		Number of hours
Lec 1	Basic notions and techniques of Cognitive Psychology in the area of Human Computer Interaction.	4
Lec 2	Usability and the process for achieving the high quality of the usability.	2
Lec 3	Context of Use description and analysis.	4
Lec 4	System design process focus on users and their tasks	2
Lec 5	Standards from the area of Human Computer Interaction and their applications in user interface development.	2
Lec 6	Usability evaluation of the user interface.	4
Lec 7	Designing of the structure and the content of web sites, web services and portals.	2
Lec 8	Survey of the most important rules of graphical screen design and applications of the user interaction tools in GUI.	4
Lec 9	Selected case studies in the area of GUI design.	4
Lec 10	Usability specification and usability issues in the project management.	2
	Total hours	30

Form of classes - class		Number of hours
Cl 1		
Cl 2		
Cl 3		
Cl 4		

..		
	Total hours	

	Form of classes - laboratory	Number of hours
Lab 1	Task-experiment (*performed during laboratory meeting*): an intuitive analysis of a selected application on the basis of exploratory learning (learning by using).	2
Lab 2	Task-experiment (*performed mainly as the own work of students, the results are presented during laboratory meeting*): teaching a person, who has no previous experience in using computers, using some application selected together with the person being taught.	2
Lab 3	Preparation of the general specification of the project (mission, initial, general description of users and their tasks), which will be a main line of the next tasks.	2
Lab 4	Preparation of the description of the context of use (on the basis of the previously collected data).	4
Lab 5	Carrying out the task analysis (on the basis of the description of the context of use).	4
Lab 6	Construction of the conceptual design of the user interface.	2
Lab 7	Initial specification of the user interface technical design and construction of the initial paper prototype.	4
Lab 8	Construction of the initial electronic prototype (*performed mainly as the own work of students, the results are presented during laboratory meeting*).	4
Lab 9	Preparation of the analytical usability evaluation by Cognitive Walkthrough and GOMS.	2
Lab 10	Construction of an improved prototype and completion of the usability evaluation for the most important user tasks.	4
	Total hours	30

	Form of classes - project	Number of hours
Proj 1		
Proj 2		
Proj 3		
Proj 4		
…		
	Total hours	

	Form of classes - seminar	Number of hours
Sem 1		
…		
	Total hours	

TEACHING TOOLS USED
N1. Textbooks N2. Electronic materials on the selected Web pages and Web sites. N3.Teaching materials published on the E-learning portal of the Faculty of Computer Science and Management.

EVALUATION OF SUBJECT EDUCATIONAL EFFECTS ACHIEVEMENT

Evaluation (F – forming (during semester), P – concluding (at semester end)	Educational effect number	Way of evaluating educational effect achievement
F1 Evaluation of the phases: context of use analysis and task analysis	PEK_W03, PEK_U01, PEK_U02, PEK_K01, PEK_K02	Students present reports that are evaluated.
F2 Evaluation of the user interface design	PEK_W02, PEK_U02, PEK_U03, PEK_K01	Students present user interface design which is evaluated
F3 Evaluation of the prototype and usability evaluation.	PEK_W01, PEK_U02, PEK_U04, PEK_K01, PEK_K02	Students present user interface prototypes, reports including results of the usability evaluation and improved prototypes that are evaluated.
C test for grading – the effects: PEK_W01- PEK_W03		

PRIMARY AND SECONDARY LITERATURE

PRIMARY LITERATURE:

[1]   Barfield L. The User Interface Concepts & Design. Addison-Wesley 1993.
[2]   Hackos J., Redish J. User and Task Analysis for Interface Design, Wiley Comp. Pub. 1998.
[3]   Newman W., Lamming M. Interactive System Design. Addison-Wesley 1995.
[4]   International Standard ISO 9241 (1,2,10-17) Ergonomic requirements for office work with visual display terminals (VDTs), szczególnie: Part 11 Guidance on Usability.
[5]   Galitz W.O. Essential Guide to User Interface Design. Wiley Comp. Pub. 2007.
[6]   Nielsen J. Projektowanie funkcjonalnych serwisów internetowych. Helion, 2003.
[7]   Human-Computer Interaction: Design Issues, Solutions, and Applications. Ed. Andrew Sears i Julie A. Jacko. CRC Press/Taylor & Francis Group, 2009

SECONDARY LITERATURE:

[1]   Spool J. M., Scanlon T., Schroeder W., Snyder C., DeAngelon T. Web Site Usability. Morgan Kaufman, 1999.
[2]   Marti A. Hearst. Search User Interfaces.

SUBJECT SUPERVISOR (NAME AND SURNAME, E-MAIL ADDRESS)

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MATRIX OF CORRELATION BETWEEN EDUCATIONAL EFFECTS FOR
SUBJECT
User Interface Development…
AND EDUCATIONAL EFFECTS FOR MAIN FIELD OF STUDY
………Computer Science (1st level)
AND SPECIALIZATION ……………………………..

Subject educational effect	Correlation between subject educational effect and educational effects defined for main field of study and specialization (if applicable)**	Subject objectives***	Programme content***	Teaching tool number***
PEK_W01 (knowledge)	K1INF_W20	C1	Lec1, Lec3	N1-N3
PEK_W02	K1INF_W05	C2, C3	Lec3, Lec7, Lec8, Lec9	N1-N3
PEK_W03	K1INF_W07	C3, C4	Lec2, Lec4, Lec5, Lec6, Lec10	N1-N3
PEK_U01 (skills)	K1INF_U10	C1, C2, C3	Lab1, Lab2	N1-N3
PEK_U02	K1INF_U10	C3	Lab3-Lab5	N1-N3
PEK_U03	K1INF_U10	C3	Lab6-Lab8	N1-N3
PEK_U04	K1INF_U10	C2, C4	Lab9, Lab10	N1-N3
PEK_K01 (competences)	K1INF_K03	C3	Lab3-Lab10	N1-N3
PEK_K02	K1INF_K02	C2	Lab1, Lab2, Lab4, Lab10	N1-N3

** - enter symbols for main-field-of-study/specialization educational effects

*** - from table above