Zał. nr 4 do ZW 64/2012

FACULTY Informatics and Management / DEPARTMENT of Informatics

SUBJECT CARD

Name in Polish Projektowanie Systemów Informatycznych
Name in English Software System Development
Main field of study (if applicable): Informatics
Specialization (if applicable): Computer Engieering
Level and form of studies: ~~1st/~~ 2nd* level, full-time ~~/ part-time~~*
Kind of subject: obligatory ~~/ optional / university-wide~~*
Subject code INZ0138Wp
Group of courses YES ~~/ NO~~*

	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			120	
Form of crediting	~~Examination /~~ crediting with grade*	Examination / crediting with grade*	Examination / 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			4	
including number of ECTS points for practical (P) classes	0			3	
including number of ECTS points for direct teacher-student contact (BK) classes	1,2			2,4	

*delete as applicable

PREREQUISITES RELATING TO KNOWLEDGE, SKILLS AND OTHER COMPETENCES

1. A student has fundamental knowledge from software engineering: basic processes, life-cycle models, modelling and specification languages
2. A student knows any object-oriented language
3. A student knows how to design, create, and use at least relational data-base

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SUBJECT OBJECTIVES

C1. To familiarize students with modern software development processes
C2. To allow students to gain practical experience from application of a selected process (resulting with at least a minimal set of documents) to the development of a software system
C3. To develop students' skills that will enable them to assess the quality of a software product at early stages of development

SUBJECT EDUCATIONAL EFFECTS

relating to knowledge:

PEK_W01 A student knows different models used during software system development and understands the role of modeling

PEK_W02 A student knows typical processes (phases) of software development, their work products, and relationships among them

PEK_W03 A student knows methods used for quality assessment of software projects (and particular work products)

relating to skills:

PEK_U01 A student designs an architecture of distributed software system using appropriate languages and tools according to the selected development process

PEK_U02 A student implements a software system in accordance to the project

PEK_U03 A student defines tasks aiming at realization of specific engineering problems, and estimates their duration

PROGRAMME CONTENT

Form of classes - lecture		**Number of hours**
Lec 1	Introduction. Basic terms. Overview of managerial activities.	2
Lec 2	The Unified Process – overview	2
Lec 3	Requirements management – repetition	2
Lec 4	Business modelling	2
Lec 5	Requirements discipline	2
Lec 6	User interface design	2
Lec 7	Analysis discipline	2
Lec 8	Design discipline – software system architecture	2
Lec 9	Design discipline – design patterns	2
Lec 10	Design discipline – architectural mechanisms, and tactics; use-case realizations	2
Lec 11	Design discipline – database concerns: integrity, transactions	2
Lec 12	Implementation discipline	2
Lec 13	Testing discipline	2
Lec 14	Architecture assessment	2
Lec 15	Modern trends in Software Engineering	2
	Total hours	30

Form of classes - project		**Number of hours**
Proj 1	Inception phase	12
Proj 2	Elaboration phase – Requirements and analysis	4
Proj 3	Elaboration phase – Design	6
Proj 4	Elaboration phase – Implementation and tests	8
	Total hours	30

TEACHING TOOLS USED
N1. Informative lecture supported by multimedia presentations N2. Examples of documents or templates N3. Case tool, IDE used for programming and testing N4. E-learning system used for materials publication

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 – lecture	PEK_W01, PEK_W02, PEK_W03	Multiple choice test. The grade calculated on the base of sum of points: <50%, 60%) → 3.0 <60%, 70%) → 3.5 <70%, 80%) → 4.0 <80%, 90%) → 4.5 >90% → 5.0
F2 – project	PEK_U01, PEK_U02, PEK_U03	A grade proposed to a student taking into account the quality of the software product and all intermediate documents; the engagement of the person in software development (the number of tasks, their accuracy, etc.)
P – final grade	All	0.4 * F1 + 0.6 * F2

PRIMARY AND SECONDARY LITERATURE

PRIMARY LITERATURE:

[1] L. Maciaszek, B.L. Liong, Practical software engineering: a case study approach, Pearson Addison Wesley, 2005
[2] P. Kroll, P. Kruchten, The Rational Unified Process Made Easy: A Practitioner's Guide to the RUP, Addison-Wesley Object Technology Series, 2003

SECONDARY LITERATURE:

[1] Per Kroll, Agility and Discipline Made Easy: Practices from Open UP and RUP, Addison-Wesley Professional, 2006
[2] OpenUP description (Eclipse project)

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

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MATRIX OF CORRELATION BETWEEN EDUCATIONAL EFFECTS FOR SUBJECT

Software System Development

AND EDUCATIONAL EFFECTS FOR MAIN FIELD OF STUDY

Informatics

AND SPECIALIZATION Computer Engineeering

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	K2INF_W06_S2CE_W05	C1	Lec1..Lec13, Lec15	N1, N4
PEK_W02	K2INF_W06_S2CE_W05	C1	Lec2, Lec5, Lec7-Lec13	N1, N4
PEK_W03	K2INF_W06_S2CE_W05	C3	Lec14	N1, N4
PEK_U01	K2INF_U08_S2CE_U10	C2	Proj1, Proj2, Proj3	N2, N3
PEK_U02	K2INF_U08_S2CE_U10	C2	Proj4	N3
PEK_U03	K2INF_U08_S2CE_U10	C2	Proj2 .. Proj4	N2, N3

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

*** - from table above