FACULTY OF COMPUTER SCIENCE AND MANAGEMENT

SUBJECT CARD

Name in Polish: Obiektowe modelowanie biznesu
Name in English: Business Object Modeling
Main field of study (if applicable): Management
Specialization (if applicable): Business information systems
Level and form of studies: 2nd level, full-time
Kind of subject: obligatory
Subject code: IEZ2206
Group of courses: NO

	Lecture	Classes	Laboratory	Project	Seminar
Number of hours of organized classes in University (ZZU)	**15**		**30**		
Number of hours of total student workload (CNPS)	**60**		**60**		
Form of crediting	**crediting with grade**		**crediting with grade**		
For group of courses mark (X) final course					
Number of ECTS points	**2**		**2**		
including number of ECTS points for practical (P) classes			**2**		
including number of ECTS points for direct teacher-student contact (BK) classes	**0,5**		**1,0**		

*delete as applicable

 PREREQUISITES RELATING TO KNOWLEDGE, SKILLS AND OTHER COMPETENCES
1. Knowledge and capability from the area information system analysis.
2. Knowledge and capability from the area information system modeling.

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SUBJECT OBJECTIVES
C1 To get knowledge about application possibilities of the object approach to business modeling.
C2 To acquire capability to building of object business models by means of unified modeling language UML.
C3 To acquire social competences specific for the activity connected to the application of the object approach to business modeling.

SUBJECT EDUCATIONAL EFFECTS

relating to knowledge:

PEK_W01 Knows the UML constructs having application to multi-aspect, business object modeling.

PEK_W02 Knows object business patterns and their use in business modeling.

PEK_W03 Understands the meaning of business modeling for the computerization concept.

relating to skills:

PEK_U01 Capable to build object business models by means of the UML language.

PEK_U02 Capable to use UML software tools.

relating to social competences:

PEK_K01 Capable unaided to develop her/his knowledge and skills, to collaborate and to work in groups, ready to identify, analyze and solve problems in the area of the business object modeling.

PEK_K02 Capable professionally to find and chose problem solving methods, to take the responsibility for them, pass over, convince and defend own views connecting with the application of the business object modeling.

PROGRAMME CONTENT	
Form of classes – lecture	**Number of hours**
Lec 1 Introduction: the business model concept, the role of business models and business modeling motivation, business model components, UML in business modeling.	1
Lec 2 UML use case modeling: business use case concept, use case scenario, use case relationships, business actors and their relationships, use case diagram.	1
Lec 3 UML in conceptual modeling: object concept, attributes, object diagram, classes and relationships between them, class diagram.	1
Lec 4 UML in behavioral modeling: activity diagrams, interaction concept, objects and messages, interaction diagrams, state-chart diagrams.	1
Lec 5 Business architecture: the business architecture concept, business architecture characteristics, business as a system, concepts used to define the business, basic meta-model of business modeling concepts, UML extensions: processes, process steps, business events.	1
Lec 6 Business views: business vision view, business process view, business structure view, business behavior view.	2
Lec 7 Business rules: business rule concept, business rule syntax, rules in UML, specifying business rules with OCL. Business rules categories: derivations, constraints, existence rules, fuzzy business rules.	2
Lec 8 Business patterns: business pattern concept, types of patterns: business patterns, architectural patterns, design patterns, pattern categories, patterns in UML.	1
Lec 9 Resource and rule patterns.	1

		Number of hours
Lec 10	Goal patterns: Business Goal Allocation, Business Goal Decomposition, Business Goal-Problem and process patterns: Action Workflow, Basic Process Structure, Process Instance State , Process Feedback.	1
Lec 11	Process patterns: Process Interaction, Process Layer Control, Process Layer Supply, Process-Process Instance, Resource Use, Time-To-Customer.	1
Lec 12	From Business Architecture to Software Architecture: software development process, software architecture, principles of a good software architecture, using the business architecture to define the software architecture.	1
Lec 13	Written test.	1
	Total hours	15

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

Form of classes - laboratory		Number of hours
Lab 1	Introduction to the UML tool: functionality, user interface, structure of the project.	2
Lab 2	Creating class model/diagram for the reality given by the natural language description.	2
Lab 3	Creating class model/diagram for the reality given by the formalized document.	2
Lab 4	Creating object model/diagram for class model/diagram given.	2
Lab 5	Practical test.	2
Lab 6	Creating state machine model/diagram for the reality given by the natural language description.	2
Lab 7	Creating activity model/diagram for the reality given by the natural language description.	2
Lab 8	Creating sequence model/diagram for the reality given by the natural language description.	2
Lab 9	Creating sequence model/diagram for the reality given by the natural language description.	2
Lab 10	Practical test.	2
Lab 11	Creating business use case model/diagram for the reality given by the natural language description.	2
Lab 12	Creating goal model/diagram for the reality given by the natural language.	2
Lab 13	Creating process model/diagram for the reality given by the natural language description.	2

Lab 14	Practical test.	2
Lab 15	Summary and credit.	2
	Total hours	30

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

Form of classes - seminar		Number of hours
Sem 1		
Sem 2		
Sem 3		
	Total hours	

TEACHING TOOLS USED

N1. Lecture

N2. Multimedia presentation

N3. Laboratory instruction

N4. Instruction during classes

N5. Attitude and behavior of the teacher

N6. Workstation with graphical operation system MS Windows and UML Tool

N7. Practical test

N8. Written test

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	PEK_W01, PEK_U01, PEK_U02	Practical test.
F2	PEK_W01, PEK_U01, PEK_U02	Practical test.
F3	PEK_W01, PEK_U01, PEK_U02	Practical test.
P	PEK_W01, PEK_W02, PEK_W03, PEK_K01(partially)	Written test.

PEK_K02(partially)	
P=1, F=3	

PRIMARY AND SECONDARY LITERATURE

PRIMARY LITERATURE:

[1]   Eriksson H.-E., Penker M. "Business Modeling with UML: Business Patterns at Work", John Wiley & Sons © 2000, ISBN:0471295515

SECONDARY LITERATURE:

[2]   Roques P. "UML in Practice", John Wiley and Sons, 2004

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

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MATRIX OF CORRELATION BETWEEN EDUCATIONAL EFFECTS FOR SUBJECT
Business Object Modeling
AND EDUCATIONAL EFFECTS FOR MAIN FIELD OF STUDY
Management
AND SPECIALIZATION Business information systems

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	K2_ZARZ_W5, K2_ZARZ_W6, K2_ZARZ_W8, S2_BIS_W04, S2_BIS_W05	C1	Lec 1, Lec 2, Lec 3, Lec 4, Lec 5, Lec 6, Lec 7	N1, N2, N8
PEK_W02	K2_ZARZ_W5, K2_ZARZ_W6, S2_BIS_W04, S2_BIS_W05	C1	Lec 8, Lec 9, Lec 10, Lec 11	N1, N2, N8
PEK_W03	S2_BIS_W04, S2_BIS_W05	C1	Lec 12	N1, N2, N8
PEK_U01	K2_ZARZ_U7, K2_ZARZ_U13 S2_BIS_U03	C2	Lab 1, Lab 2, Lab 3, Lab 4, La6, Lab 7, Lab 8, Lab 9, Lab 11, Lab 12, Lab 13	N3, N4, N6, N7
PEK_U02	K2_ZARZ_U7, K2_ZARZ_U13 S2_BIS_U03	C2	Lab 1, Lab 2, Lab 3, Lab 4, Lab 6, Lab 7, Lab 8, Lab 9, Lab 11, Lab 12, Lab 13	N3, N4, N6, N7
PEK_K01	K2_ZARZ_K04, K2_ZARZ_K05, K2_ZARZ_K06	C3	In connection with all programme content	In connection with all teaching tools
PEK_K02	K2_ZARZ_K04, K2_ZARZ_K05, K2_ZARZ_K06	C3	In connection with all programme content	In connection with all teaching tools

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