

FACULTY W-8/ DEPARTMENT.....

SUBJECT CARD**Name in Polish** *Zawansowane bazy danych***Name in English** *Advanced databases***Main field of study (if applicable):** Computer Science**Specialization (if applicable):** Computer Engineering**Level and form of studies:** 1st/ ~~2nd~~* level, full-time / ~~part-time~~***Kind of subject:** obligatory / optional / university-wide***Subject code** INZ0109Wps**Group of courses** YES / NO*

	Lecture	Classes	Laboratory	Project	Seminar
Number of hours of organized classes in University (ZZU)	15			30	15
Number of hours of total student workload (CNPS)	60			90	60
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					
Number of ECTS points	2			3	2
including number of ECTS points for practical (P) classes	0			3	0
including number of ECTS points for direct teacher-student contact (BK) classes	1,2			1,8	1,2

*delete as applicable

PREREQUISITES RELATING TO KNOWLEDGE, SKILLS AND OTHER COMPETENCES

1. Is able to develop database application with SQL language
- 2.
- 3.

SUBJECT OBJECTIVES

C1 To enhance students' knowledge about advanced topics in databases

C2 To learn how to practically apply modern database models

SUBJECT EDUCATIONAL EFFECTS

relating to knowledge:

PEK_W01 Has a basic knowledge about modern database models

PEK_W02 Has a basic knowledge about advanced topics in databases

...

relating to skills:

PEK_U01 Is able to discuss and evaluate modern database models

PEK_U02 Is able to build a dedicated database with usage of non-standard data models

... relating to social competences: PEK_K01Is able to work in and manager a small software development team		
PROGRAMME CONTENT		
Form of classes - lecture		Number of hours
Lec 1	Introduction, advanced database models	2
Lec 2	Active databases	2
Lec 3	Temporal databases	2
Lec 4	Data stream management	2
Lec 5	Semistructural data storage	2
Lec 6	Semistructural data processing	2
Lec 7	NoSQL and Big Data	2
Lec 8	Test	1
	Total hours	15
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		
Lab 2		
Lab 3		
Lab 4		
Lab 5		
...		
	Total hours	
Form of classes - project		Number of hours
Proj 1	Introduction, Project teams building	2
Proj 2	Brainstorming	2
Proj 3	Presentation of self prepared or chosen idea of database application.	2
Proj 4	Building final, revised concept of projected solution.	2

Proj 5	Setup of project's infrastructure	2
Proj 6	Sprint 1 Iteration 1	2
Proj 7	Sprint 1 Iteration 2	2
Proj 8	Sprint 1 Iteration 3 and sprint demo	2
Proj 9	Sprint 2 Iteration 1	2
Proj 10	Sprint 2 Iteration 2	2
Proj 11	Sprint 2 Iteration 3 and sprint demo	2
Proj 12	Sprint 3 Iteration 1	2
Proj 13	Sprint 3 Iteration 2	2
Proj 14	Sprint 3 Iteration 3 and sprint demo	2
Proj 15	Final assessment	2
	Total hours	30
Form of classes - seminar		Number of hours
Sem 1	Introduction, Subject and term assignment	2
Sem 2-Sem8	Individual presentations prepared by students	13
	Total hours	15
TEACHING TOOLS USED		
N1. Lecture		
N2. The course web page with references to literature		
N3. Software development tools		

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_U01-02, PEK_K01	Evaluation of the concept of solution [20 points] (Lab1-4)
F2	PEK_U01-02, PEK_K01	Evaluation of the sprint demo 1[20 points] (Lab5-8)
F3	PEK_U01-02, PEK_K01	Evaluation of the sprint demo 2[20 points] (Lab9-11)
F4	PEK_U01-02, PEK_K01	Evaluation of the sprint demo 3[40 points] (Lab12-14)
C1	PEK_U01-02, PEK_K01	C1 is based on the sum of the points from F1...F4. At least 50% of points is required.
C2	PEK_U01	C2 is based on quality of seminar presentation.
C3	PEK_W01-02	C3 is based on the result of a written test covering material

		presented during lectures. At least 50% of points is required to pass the test.
C		
PRIMARY AND SECONDARY LITERATURE		
<u>PRIMARY LITERATURE:</u> [1] R. Ramakrishnan, J. Gehrke, Database Management Systems, McGraw-Hill, 2000 [2] Sam Lightstone, Toby Teorey, Tom Nadeau, Physical Database Design, Morgan Kaufmann, 2007 [3]		
<u>SECONDARY LITERATURE:</u> [1] Principles of Distributed Database Systems, Third Edition, M. Tamer Özsu, Patrick Valduriez, Springer, 2010 [2] C. S. Jensen - Temporal Database Management		
SUBJECT SUPERVISOR (NAME AND SURNAME, E-MAIL ADDRESS)		
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MATRIX OF CORRELATION BETWEEN EDUCATIONAL EFFECTS FOR
SUBJECT

Advanced databases

AND EDUCATIONAL EFFECTS FOR MAIN FIELD OF STUDY

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)	K2INF_W06_S2CE_W05	C1	Lec1-Lec7	N1 – N2
PEK_W02	K2INF_W06_S2CE_W05	C1-C2	Lec1-Lec7	N1 – N2
PEK_U01 (skills)	K2INF_U08_S2CE_U10 K2INF_U08_S2CE_U09	C1-C2	Lec1-Lec7 Sem2-Sem8 Proj1-Proj15	N1 – N3
PEK_U02	K2INF_U08_S2CE_U10 K2INF_U08_S2CE_U09	C2	Proj1-Proj15	N3
PEK_K01 (competences)		C2	Proj1-Proj15	N1 – N3

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

*** - from table above