SYLLABUS OF A MODULE

Polish name of a module	**Bazy danych i hurtownie danych**
English name of a module	Data bases & warehouses
ISCED classification - Code	0612
ISCED classification - Field of study	*Database and network design and administration*
Languages of instruction	*English*
Level of qualification:	*2*
Number of ECTS credit points	*5*
Examination:	*A*
Available in semester:	*S*

Number of hours per semester:

Lecture	Tutorial	Laboratory	Seminar	Project	Others
30	0	30	0	0	0

MODULE DESCRIPTION

Module objectives

O1. Gaining knowledge concerning the different models and architecture of databases and warehouses (relational model, object-oriented, postrelational, distributed and semistructural).

O2. Familiar with DBMS tools, environment and optimization techniques

O3. Obtaining knowledge in the area of developing and implementing selected models of databases and warehouses.

O4. Acquisition by students practical skills to work independently and in a team, develop reports, analyze the results, etc.

PRELIMINARY REQUIREMENTS FOR KNOWLEDGE, SKILLS AND OTHER COMPETENCES

1. Knowledge of mathematics.

2. Knowledge of databases and SQL fundamentals.
3. Basics of computer skills.
4. Rational and logical thinking.
5. Ability to perform mathematical operations to solve given tasks.
6. Ability to use various sources of information including manuals and technical documentation.
7. Ability to work independently and in a group.
8. Ability to correctly interpret and present their own actions.

LEARNING OUTCOMES

LO 1 – able to use an advanced parts of SQL language
LO 2 – able to develop and implement a given database logical model
LO 3 – able to improve a performance or functionality of given database project
LO 4 – able to use DBMS tools
LO 5 – able to design a database for data warehousing

MODULE CONTENT

Type of classes – Lectures		**Number of hours**
Lect. 1	Repetitory course of SQL	**2**
Lect. 2	SQL analytical functions	**2**
Lect. 3	PL/SQL language	**2**
Lect. 4	PL/SQL language	**2**
Lect. 5	PL/SQL language/ dynamic SQL	**2**
Lect. 6	Object databases	**2**
Lect. 7	Object databases	**2**
Lect. 8	Object-oriented parts of SQL language	**2**
Lect. 9	Spatial databases	**2**
Lect. 10	XML-enabled database systems	**2**
Lect. 11	Native XML database systems	**2**
Lect. 12	SQL Optimization	**2**
Lect. 13	SQL Injection	**2**

Lect. 14	Introduction to big data sets, warehousing and data mining.	**2**
Lect. 15	Contemporary data warehouses	**2**
Type of classes– Laboratory		**Number of hours**
Lab. 1	Repetitory of SQL	**2**
Lab. 2	SQL analytical functions	**2**
Lab. 3	PL/SQL language	**2**
Lab. 4	PL/SQL language	**2**
Lab. 5	PL/SQL language/ dynamic SQL	**2**
Lab. 6	Object-oriented parts of SQL language	**2**
Lab. 7	Object-oriented parts of SQL language	**2**
Lab. 8	Summary	**2**
Lab. 9	Spatial databases	**2**
Lab. 10	XML-enabled database systems	**2**
Lab. 11	XML-enabled database systems	**2**
Lab. 12	SQL Optimization	**2**
Lab. 13	SQL Injection	**2**
Lab. 14	Warehousing	**2**
Lab. 15	Summary	**2**

TEACHING TOOLS

1. – multimedial presentations for lectures
2. – instructions for laboratories
3. – instructions for exercises
4. – workplaces for students equipped with workstations

WAYS OF ASSESSMENT (F – FORMATIVE, S – SUMMATIVE

P1. – two midterm exams for laboratory
P2. – one in-class quiz for exercise
P3. – design & programming assignments
S1. – the final grade is based on the knowledge and skills gained from lectures, laboratories and exercises

*) warunkiem uzyskania zaliczenia jest otrzymanie pozytywnych ocen ze wszystkich ćwiczeń laboratoryjnych oraz realizacji zadania sprawdzającego

STUDENT'S WORKLOAD

L.p.	**Forms of activity**	**Average number of hours required for realization of activity**
1.	**Contact hours with teacher**	
1.1	Lectures	30
1.2	Tutorials	0
1.3	Laboratory	30
1.4	Seminar	0
1.5	Project	0
1.6	Consulting teacher during their duty hours	1
1.7	Examination	0
Total number of contact hours with teacher:		61
2.	**Student's individual work**	
2.1	Preparation for tutorials and tests	12
2.2	Prreparation for laboratory exercises, writing reports on laboratories	30
2.3	Preparation of project	0
2.4	Preparation for final lecture assessment	12
2.5	Preparation for examination	0
2.6	Individual study of literature	10
Total numer of hours of student's individual work:		64
Overall student's workload:		125
Overall number of ECTS credits for the module		5
Number of ECTS points that student receives in classes requiring teacher's supervision:		2,44
Number of **ECTS** credits acquired during practical classes including laboratory exercises and projects :		1,2

BASIC AND SUPPLEMENTARY RESOURCE MATERIALS

1. http://www.oracle.com/technology/documentation/index.html
2. http://www.odbms.org/
3. http://www.ploug.org.pl/

MODULE COORDINATOR (NAME, SURNAME, INSTITUTE, E-MAIL ADDRESS)

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