Poznan University of Technology

Faculty of Electronics and Telecommunications

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STUDY MODULE DESCRIPTION FORM		
Name of the module/subject **Databases**		Code **1010805131010822204**

Field of study **Electronics and Telecommunications**	Profile of study (general academic, practical) **general academic**	Year /Semester **2 / 3**
Elective path/specialty **-**	Subject offered in: **Polish**	Course (compulsory, elective) **elective**

Cycle of study: **Second-cycle studies**	Form of study (full-time,part-time) **part-time**

No. of hours				No. of credits **6**
Lecture: **15**	Classes: **15**	Laboratory: **15**	Project/seminars: **-**	

Status of the course in the study program (Basic, major, other) **major**	(university-wide, from another field) **from field**

Education areas and fields of science and art
 	
technical sciences
    Technical sciences
	ECTS distribution (number and %**)**
	
	6 100%
	        6 100%

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Has a basic knowledge of computer networks; Has a basic knowledge of C# programming, algebra of sets and relation algebra
2	**Skills**	Is able to find information in literature, as well as other reference sources; is able to integrate and interpret obtained information, draws conclusions and justifies
3	**Social competencies**	Student understands a necessity to acquire a new knowledge and skills stemming from a chosen field of studies.

Assumptions and objectives of the course:

To provide students with database models, SQL and PL SQL languages, query formats, embeded functions and extensions. To prepare students to database optymization and programming database applications.

Study outcomes and reference to the educational results for a field of study

Knowledge:

1. Has a systematic knowledge of algebra of sets and relation algebra. - [K2_W00]

2. Has a systematic knowledge, with the necessary theoretical background, of optimization methods used in solving engineering problems. - [K2_W03]

Skills:

1. Is able to use bibliography in English (books, scientific and technical journals, application notes, catalogs, instructions, recommendations etc.) - [K2_U01]

2. Can use optimization methods to solve problems in electronics and telecommunications. - [K2_U05]

Social competencies:

1. Understands the importance of communication for the development of individuals and societies, understands the evolutionary development of networks and telecommunications systems include increased needs of users in the development of telecommunications networks - [K2_K02]

2. . Knows the limitations of their own knowledge and skills, he understands the need for further education. - [K2_K04]

Assessment methods of study outcomes

Forming assessment:

Lectures: Written exam; exam is passed when student receives at least 50% points. Exam can be taken after the completion of excercises.

Exercices and laboratories:

- evaluation and assessment of knowledge increment that need to be effective in solving problems covering all tasks within a given subject area;

- continuous assessment during daily classroom practice - rewarding knowledge increment in skills in management of using rules and methods learnt in class.

Course description

Lectures:

Wykłady:

1. Definitions: information, data, data processing. Database models. Database management systems.

2. Relation algebra.

3. SQL basis, views, sequences, trigers, indexes.

4. Embeded SQL functions, PL SQL.

5. Database users, access to databases.

6. Overwiev of DBMS.

7. Database applications.

Exercises:

1. Database definitions.

2. Simple SQL queries.

3. Database modifications.

4. Exteneded SQL queries.

5. PL SQL procedures

6. Database applications.

Basic bibliography:

1. Hernandez, Michael J., Database design for mere mortals: a hands-on guide to relational database design, Addison-Wesley 2005

Additional bibliography:

1. Jason Price, Oracle Database 11gSQL, McGrawHill 2008

2. PL/SQL User?s Guide and Reference, Release 2 (9.2) Part No. A96624-01

Result of average student's workload

Activity	Time (working hours)
1. Lectures	20
2. Laboratories	20
3. Preparation for lectures	20
4. Preparation for test	20
5. Preparation for laboratories	40
6. Preparation for exam	20
7. Consultation	5

Student's workload

Source of workload	hours	ECTS
Total workload	150	6
Contact hours	55	2
Practical activities	60	2