STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Relational databases**		Code **1010342611010347332**
Field of study **Mathematics**	Profile of study (general academic, practical) **(brak)**	Year /Semester **1 / 1**
Elective path/specialty **-**	Subject offered in: **Polish**	Course (compulsory, elective) **obligatory**
Cycle of study: **Second-cycle studies**	Form of study (full-time,part-time) **full-time**	

No. of hours				No. of credits **5**
Lecture: **30**	Classes: **-**	Laboratory: **30**	Project/seminars: **-**	

Status of the course in the study program (Basic, major, other) **(brak)**	(university-wide, from another field) **(brak)**	
Education areas and fields of science and art **technical sciences**		ECTS distribution (number and %**)** **5 100%**

Responsible for subject / lecturer:

Marian Dondajewski Ph.D.
email: marian.dondajewski@put.poznan.pl
tel. +4861 665 2805
Faculty of Electrical Engineering
ul. 3A, 60-965 Poznan Piotrowo

Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Basic knowledge of mathematics in the fields of mathematical logic and abstract algebra. Basic knowledge of operating systems.
2	**Skills**	Familiar with basics of computers. Can uses of MS Office (Word and Excel). Knows how to formulate the problem and sees a variety of methods to address it.
3	**Social competencies**	Understands the need to gather information and computer processing. Is aware of the role of teamwork and continuous self-education.

Assumptions and objectives of the course:

-Introduce the concept of database and database management system.

-Familiar with the principles of database design. Formal requirements for effective database - the database normal forms.

-Learning basic operations on databases: projection, selection and join.

-Create a database in MS Access.

-Familiarizing with database objects: tables, forms, reports, queries, macros.

Knowledge of SQL language elements.

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

Knowledge:

1. have the ability to draw and interpret relational database schemas - [K_W06 + + + K_W07 + +]

2. can optimize the relationship schemas - [K_W011 + + K_W02 + +]

3. understand basic SQL - [K_W011 + +]

Skills:

1. can design a simple database system using on the relational model - [K_U16 + + K_U19 + + K_U04 +]

2. know how to implement this system with MS Access - [K_U21 + +]

Social competencies:

1. He can discuss with a potential customer database system and clarity expectations - [K_K02 + + +]

2. Is able to work in a team - [K_K03 + + +]

3. Can use a technical documentation and search for required information in the literature (including foreign language) - [K_K06 + + +]

Assessment methods of study outcomes

-Lectures:

 - Assess the knowledge and skills listed on writing exam (student can use any printed materials),

 - Control of perception during lectures.

Laboratory:

 - Test and rewarding knowledge necessary to perform of the laboratory tasks

 - Continuous evaluation class - rewarding gain skills

 - Assess the knowledge and skills associated with the implementation of the tasks

Get extra points for the activity in the classroom, and in particular for:

 - Propose to discuss new aspects of the subject;

 - The effectiveness of the application of the knowledge gained during solving a given problem;

 - Comments for improvement of teaching materials;

 - Developed aesthetic diligence reports and jobs - in the self-study.

Course description

-Introduction to databases and database management systems. Methods for creating database schemas and relationships forms a normal base, to ensure their good properties. Basic database objects: tables, queries, forms and reports. Create a database in MS Access user interface. The basic elements of the SQL language.

Basic bibliography:

1. C.Delobel, M.Adiba: Relacyjne bazy danych, WNT, W-wa 1989.

2. Jeffrey D. Ullman, Jennifer Widom: Podstawowy wykład z baz danych, WNT 1999.

3. J.Kierko: Język SQL, PWN, W-wa 1994.

4. C.N. Prague, M.R. Irwin, J. Reardon: Access 2003 PL. Biblia. HELION, Gliwice 2004.

5. C.Delobel, M.Adiba: Relacyjne bazy danych, WNT, W-wa 1989.

6. Jeffrey D. Ullman, Jennifer Widom: Podstawowy wykład z baz danych, WNT 1999.

7. J.Kierko: Język SQL, PWN, W-wa 1994.

8. C.N. Prague, M.R. Irwin, J. Reardon: Access 2003 PL. Biblia. HELION, Gliwice 2004.

9. C.Delobel, M.Adiba: Relacyjne bazy danych, WNT, W-wa 1989.

10. Jeffrey D. Ullman, Jennifer Widom: Podstawowy wykład z baz danych, WNT 1999.

11. J.Kierko: Język SQL, PWN, W-wa 1994.

12. C.N. Prague, M.R. Irwin, J. Reardon: Access 2003 PL. Biblia. HELION, Gliwice 2004.

Additional bibliography:

1. C.J. Date: Wprowadzenie do systemów baz danych, WNT, Warszawa 2000.

2. T. Pankowski: Podstawy baz danych, PWN, W-wa 1992.

3. B. Czogalik: Access 2002- Tworzenie baz danych, HELION, Gliwice 2002.

4. C.J. Date: Wprowadzenie do systemów baz danych, WNT, Warszawa 2000.

5. T. Pankowski: Podstawy baz danych, PWN, W-wa 1992.

6. B. Czogalik: Access 2002- Tworzenie baz danych, HELION, Gliwice 2002.

7. C.J. Date: Wprowadzenie do systemów baz danych, WNT, Warszawa 2000.

8. T. Pankowski: Podstawy baz danych, PWN, W-wa 1992.

9. B. Czogalik: Access 2002- Tworzenie baz danych, HELION, Gliwice 2002.

Result of average student's workload	

Activity	**Time (working hours)**
1. Participation in lectures, exercises, preparation of programs for laboratory classes and individual work with manual	130

Student's workload		

Source of workload	**hours**	**ECTS**
Total workload	130	5
Contact hours	70	4
Practical activities	60	2

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