

FACULTY OF ELECTRICAL
ENGINEERING**SUBJECT CARD**

Name in Polish: **Bazy danych**
 Name in English: **Databases**
 Main field of study (if applicable): **Electrical Engineering**
 Specialization (if applicable):
 Level and form of studies: **1st level, full-time**
 Kind of subject: **optional**
 Subject code: **ELR041309**
 Group of courses: **NO**

| | Lecture | Classes | Laboratory | Project | Seminar |
|--|---------|---------|----------------------|---------|---------|
| Number of hours of organized classes in University (ZZU): | | | 15 | | |
| Number of hours of total student workload (CNPS): | | | 60 | | |
| Form of crediting: | | | crediting with grade | | |
| For group of courses mark (X) final course: | | | | | |
| Number of ECTS points: | | | 2 | | |
| including number of ECTS points for practical (P) classes : | | | 2 | | |
| including number of ECTS points for direct teacher-student contact (BK) classes: | | | 1.40 | | |

PREREQUISITES RELATING TO KNOWLEDGE, SKILLS AND OTHER COMPETENCES

1. has basic computer literacy
2. has basic knowledge about searching for technical information
3. is able to write computer programmes based on given algorithm

SUBJECT OBJECTIVES

- C1. introduction to design data bases of data-centric systems
 C2. introduction to technological aspect of using modern data-centric systems
 C3. acquisition of decision-making skills in respect of designing databases

SUBJECT EDUCATIONAL EFFECTS*relating to knowledge:**relating to skills:*

PEK_U01 is able to source information about designing relational databases from literature and other sources

PEK_U02 is able to design and program a database in MS ACCESS

relating to social competences:

PEK_K01 is able to think and action in a creative and enterprising manner

PROGRAMME CONTENT

| Form of classes - laboratory | | | Number of hours: |
|-------------------------------------|--|--|-------------------------|
| Lab 1 | Stage 0 - the choice of topic of the real database | | 2 |
| Lab 2 | Stage 1 - Identification of the entity and the initial data flow definition of the relationship | | 2 |
| Lab 3 | Stage 2 - identification of attributes for all entities established system and to determine the types of data | | 2 |
| Lab 4 | Stage 3 - establish relationships explicit and unambiguous and one-reduction many-to-many | | 2 |
| Lab 5 | Stage 4 - Programming SQL: queries simple, complex and parametric | | 2 |
| Lab 6 | Stage 5 - interface of user base - create simple and complex forms | | 2 |
| Lab 7 | Stage 6 - entering data into the database and user interface testing. Creating the sample reports based on queries | | 2 |
| Lab 8 | Laboratory assessment | | 1 |
| Total hours: | | | 15 |

TEACHING TOOLS USED

- N1. students code case-based programmes both individually and in teams
 N2. remote self-education - <http://eportal.eny.pwr.edu.pl>
 N3. consultation

EVALUATION OF SUBJECT EDUCATIONAL EFFECTS ACHIEVEMENT

| Evaluation <i>F - forming (during semester) P - concluding (at semester end)</i> | Educational effect number | Way of evaluating educational effect achievement |
|---|-------------------------------|---|
| F1(L) | PEK_U01 PEK_U02 PEK_K01 | Development of a relational database in electronic form. E-learning platform: http://eportal.eny.pwr.edu.pl |
| P(L) | P=F1 | |

PRIMARY AND SECONDARY LITERATURE

PRIMARY LITERATURE:

- [1] Bazy danych, W. Harris, WNT (any edition)
 [2] Wprowadzenie do systemów baz danych, C.J. Date, WNT (any edition)
 [3] Platforma edukacyjna: <http://eportal.eny.pwr.edu.pl>
 [4] Net-literature

SECONDARY LITERATURE:

- [1] SQL Język relacyjnych baz danych, Wellesley Software, WNT (any edition)
 [2] Programowanie w PHP, Helion, (any edition)
 [3] JAVA Kompendium programisty, Helion, (any edition)

SUBJECT SUPERVISOR

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MATRIX OF CORRELATION BETWEEN EDUCATIONAL EFFECTS FOR SUBJECT **ELR041309 - Databases** AND EDUCATIONAL EFFECTS FOR MAIN FIELD OF STUDY **Electrical Engineering**

| 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_U01 | K1ETK_U13 | C.1 C.2 | Lab1 Lab2 Lab3 Lab4 Lab5 Lab6 Lab7 | N.1 N.2 N.3 |
| PEK_U02 | K1ETK_U13 | C.2 C.3 | Lab1 Lab2 Lab3 Lab4 Lab5 Lab6 Lab7 | N.1 N.2 N.3 |
| PEK_K01 | K1ETK_K05 K1ETK_K06 | C.2 C.3 | Lab6 Lab7 Lab8 | N.1 N.2 N.3 |