

FACULTY OF ELECTRICAL  
ENGINEERING**SUBJECT CARD**

Name in Polish: **Systemy akwizycji i identyfikacji obiektów**  
 Name in English: **Acquisition systems and identify objects**  
 Main field of study (if applicable): **Industrial Control Engineering**  
 Specialization (if applicable):  
 Level and form of studies: **1st level, full-time**  
 Kind of subject: **optional**  
 Subject code: **APR011307**  
 Group of courses: **NO**

	Lecture	Classes	Laboratory	Project	Seminar
Number of hours of organized classes in University (ZZU):	15			15	
Number of hours of total student workload (CNPS):	30			30	
Form of crediting:	crediting with grade			crediting with grade	
For group of courses mark (X) final course:					
Number of ECTS points:	1			1	
including number of ECTS points for practical (P) classes :				1	
including number of ECTS points for direct teacher-student contact (BK) classes:	0.70			0.70	

**PREREQUISITES RELATING TO KNOWLEDGE, SKILLS AND OTHER COMPETENCES**

1. Has basic computer literacy
2. Has basic knowledge about structured programming
3. Is able to write computer programmes based on given algorithm
4. Recognises the need of continuous education, developing professional, personal and social competences and it able to define opportunities to do so

**SUBJECT OBJECTIVES**

- C1. introduction to theoretics and practical of data-centric systems  
 C2. introduction to technological aspect of using data-centric systems  
 C3. acquisition of decision-making skills in respect of designing databases

**SUBJECT LEARNING OUTCOMES***relating to knowledge:*

- PEU\_W01 has knowledge about data exchange for engineering purposes  
 PEU\_W02 knows the basics of designing relational database for purposes of information processing and monitoring

*relating to skills:*

- PEU\_U01 is able to source information about designing relational databases from literature and other sources  
 PEU\_U02 is able to design and program a relationship database

*relating to social competences:*

- PEU\_K01 is able to think and action in a creative and enterprising manner

## PROGRAMME CONTENT

Form of classes - lecture		Number of hours:
Lec 1	Objectives and tasks of database for engineering purposes. Multitasking of processes in modern computer systems. Information and technological resource sharing	2
Lec 2	Selected elements of network connections: Ethernet, Token Ring, Wi-Fi, Bluetooth, USB, RS232, RS485, GPIB	2
Lec 3	Database management system. Elements of servers running database management systems. Developing network databases in MYSQL. Standard SQL (Structured Query Language)	2
Lec 4	Developing network databases in MS ACCESS. Tables, establishing primary and foreign keys. Table merging	2
Lec 5	Queries, search queries, perspectives, clauses and transactions	2
Lec 6	Creating forms and reports for websites and in MS ACCESS	2
Lec 7	Chosen methods of object identification, selection and sorting	2
Lec 8	Time for self-studies and preparation for a computer-based test that will be performed in the laboratory.	1
Total hours:		<b>15</b>

Form of classes - project		Number of hours:
Proj 1	Project of relational database developed by students individually or in groups of two. Project subjects are proposed by students and approved by class teachers after establishing all details. Each project consists of the following stages: developing an actual model, standardisation and algorithmization of database, SQL programming, launching and testing the end-user application, preparing documentation	14
Proj 2	Assessment of the project	1
Total hours:		<b>15</b>

## TEACHING TOOLS USED

- N1. introductory lecture with slideshow and elements of e-learning  
 N2. students code case-based programmes both individually and in teams  
 N3. students prepare interim reports electronically: e-learning platform: <http://eportal.eny.pwr.edu.pl>  
 N4. remote self-education - <http://eportal.eny.pwr.edu.pl> - partial and final test  
 N5. consultation

## EVALUATION OF SUBJECT LEARNING OUTCOMES ACHIEVEMENT

Evaluation <i>F - forming (during semester) P - concluding (at semester end)</i>	Educational effect number	Way of evaluating educational effect achievement
F1(W)	PEU_W01 PEU_W02	Remote self-teaching - partial test. E-learning platform: <a href="http://eportal.eny.pwr.edu.pl">http://eportal.eny.pwr.edu.pl</a>
F2(W)	PEU_W01 PEU_W02	Computer test lab using the e-learning platform: <a href="http://eportal.eny.pwr.edu.pl">http://eportal.eny.pwr.edu.pl</a>
P(W)	$P=0.15 \times F1 + 0.85 \times F2$	
F1(P)	PEU_U01 PEU_U02 PEU_K01	Development of the project as well as electronic documentation. E-learning platform: <a href="http://eportal.eny.pwr.edu.pl">http://eportal.eny.pwr.edu.pl</a>
P(P)	$P=F1$	

## 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] E-learning platform: <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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