

FACULTY OF ELECTRICAL  
ENGINEERING**SUBJECT CARD**

Name in Polish: **Programowanie w języku Delphi**  
 Name in English: **Programming in Delphi**  
 Main field of study (if applicable): **Electrical Engineering**  
 Specialization (if applicable):  
 Level and form of studies: **1st level, part-time**  
 Kind of subject: **optional**  
 Subject code: **ELR043275**  
 Group of courses: **NO**

	Lecture	Classes	Laboratory	Project	Seminar
Number of hours of organized classes in University (ZZU):			10		
Number of hours of total student workload (CNPS):			108		
Form of crediting:			crediting with grade		
For group of courses mark (X) final course:					
Number of ECTS points:			4		
including number of ECTS points for practical (P) classes :			4		
including number of ECTS points for direct teacher-student contact (BK) classes:			2.80		

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

1. Has a basic knowledge of IT issues.
2. Has a basic knowledge of the development of algorithms.
3. Has the basic skills related to service PC.
4. Has the basic skills related to programming PC.
5. He understands a need to participate in activities to improve their skills and acquire new knowledge.

**SUBJECT OBJECTIVES**

- C1. Acquiring the ability to create algorithms to solve engineering tasks.  
 C2. Acquiring the ability to computer programming in Delphi language.  
 C3. The acquisition and consolidation of of social competence including emotional intelligence involving the ability to work in a group of students with a view to effective problem solving. Responsibility, honesty and fairness in the procedure observance force in academic environment and society.

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

PEK\_U01 He can formulate the problem of programming.

PEK\_U02 He can write a program in Delphi language using appropriate programming methods.

*relating to social competences:*

PEK\_K01 The acquisition and consolidation of competence in the independent and creative thinking.

**PROGRAMME CONTENT**

Form of classes - laboratory		Number of hours:
Lab 1	Introductory classes. Getting acquainted with safety rules. Familiarize with laboratory set-up and the development environment. Making the sample project.	2
Lab 2	Writing programs with complex data types and operators	2
Lab 3	Writing programs using the program sequence control procedures	2
Lab 4	Writing programs using a graphical user interface and object-oriented programming elements.	3
Lab 5	Activities program completion.	1
Total hours:		<b>10</b>

### TEACHING TOOLS USED

- N1. Individual work, preparation for exercise.  
 N2. Consultation.  
 N3. Traditionally carried out laboratory with computer programming.

### 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	Activity in laboratory classes.
F2(L)	PEK_U01 PEK_U02 PEK_K01	Rate written programs after each course.
P(L)	$P=0,3 \cdot F1 + 0,7 \cdot F2$	

### PRIMARY AND SECONDARY LITERATURE

#### PRIMARY LITERATURE:

- [1] Osier D., Grobman S., Batson S., Delphi 2, Wyd. Helion, Gliwice 1997  
 [2] Baron B., Pasierbek A., Maciążek M., Algorytmy numeryczne w Delphi. Księga eksperta, Wyd. Helion, 2006

#### SECONDARY LITERATURE:

- [1] Developer's Guide, Borland Delphi for Windows

### SUBJECT SUPERVISOR

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### MATRIX OF CORRELATION BETWEEN EDUCATIONAL EFFECTS FOR SUBJECT ELR043275 - Programming in Delphi 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	N.1 N.2 N.3
PEK_U02	K1ETK_U13	C.1 C.2	Lab1 Lab2 Lab3 Lab4 Lab5	N.1 N.2 N.3
PEK_K01	K1ETK_K05 K1ETK_K06	C.3	Lab1 Lab2 Lab3 Lab4 Lab5	N.1 N.2 N.3