STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Information Engineering**		Code **1010324331010320388**

Field of study **Electrical Engineering**	Profile of study (general academic, practical) **(brak)**	Year /Semester **2 / 3**

Elective path/specialty **-**	Subject offered in: **Polish**	Course (compulsory, elective) **obligatory**

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

No. of hours Lecture: **16** Classes: **-** Laboratory: **-** Project/seminars: **-**	No. of credits **2**

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** **Technical sciences**	ECTS distribution (number and %) **2 100%** **2 100%**

Responsible for subject / lecturer:

Dr inż. Arkadiusz Dobrzycki
email: arkadiusz.dobrzycki@put.poznan.pl
tel. 616652685
Elektryczny
ul. Piotrowo 3A, 60-965 Poznań

Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Basic knowledge of computer science, algorithmization and programming in high-level languages.
2	**Skills**	OS support Windows class. Concepts of programming in C + +. Ability to develop simple algorithms and cooperation in a team (group of laboratory).
3	**Social competencies**	Awareness of the importance of work informatics tools in electrical engineering, the ability to expand their competences.

Assumptions and objectives of the course:

Knowledge of both theoretical and practical issues associated with the use of selected informatics components and systems used in the work of electrical engineer. Acquisition of the ability to design simple database systems. Familiar with the theoretical foundations of visual programming environments. NET - C # language for engineering issues.

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

Knowledge:

1. define the required elements of a relational database system, explain the need for a multiprocessor system - [K_W11+++]

2. list and explain the principles of operation of some ways to improve the safety and speed of data processing in computer systems - [K_W11+++]

Skills:

1. design and implement a relational database model for engineering applications - [K_U06++, K_U04+]

2. evaluate the usefulness of specific tools electrical engineer at work - [K_U13+]

Social competencies:

1. can justify the need for informatics tools to improve efficiency in the work of electrical engineer and improve the economic importance of the company - [K_K04++, K_K01+]

Assessment methods of study outcomes

Lecture:
? assess the knowledge and skills demonstrated by the successful completion of a written problematic (check the skills of basic troubleshooting information for the design of simple systems, databases and application systems in the work of electrical engineer).

Course description

Database: conceptual, logical and physical modeling, relational database model (basic concepts, algebra relational, design structure relationships and their connections, the basics of SQL, MS Access), increasing the safety and speed of data processing server solutions (technologies, multiprocessor, standard SATA, SAS, RAID technology), the basis of parallel computer architecture and parallelization of calculations.

Applied methods of teaching: lectures - multimedia presentations (including drawings, photographs, animations, sound, films) supplemented by examples given on the whiteboard, interactive lecture with questions to students or specific students, lecture Initiation of discussion, consideration of various aspects of the presented issues, including: economic, ecological, legal, social, etc., presentation of a new topic preceded by a reminder of related content known to students from other subjects.

Basic bibliography:

1. Garcia-Molina H., Ullmann J.D., WidomJ. , Systemy baz danych, Helion 2011

2. Sosinsky B. , Sieci komputerowe ? Biblia, Helion 2011

3. Lis M.: "SQL. Ćwiczenia praktyczne", Helion, Gliwice 2011.

4. Boduch A.: "Wstęp do programowania w języku C#", Helion, Gliwice 2006.

Additional bibliography:

1. Elmasri R., Navathe S. B.: "Wprowadzenie do systemów baz danych", Helion, Gliwice 2005.

2. Perry S. C.: "C# i .NET. Core", Helion, Gliwice 2006.

Result of average student's workload

Activity	Time (working hours)
1. participation in class lectures	16
2. participate in the consultations on the lecture	4
3. Preparing to pass the lecture	20
4. participation in test	2

Student's workload

Source of workload	hours	ECTS
Total workload	43	2
Contact hours	23	1
Practical activities	0	0