STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Object-oriented programming and databases**		Code **1010325321010322646**
Field of study **Electrical Engineering**	Profile of study (general academic, practical) **(brak)**	Year /Semester **1 / 2**
Elective path/specialty **-**	Subject offered in: **Polish**	Course (compulsory, elective) **obligatory**
Cycle of study: **Second-cycle studies**	Form of study (full-time,part-time) **part-time**	
No. of hours Lecture: **10** Classes: **-** Laboratory: **10** 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:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Basic knowledge of high-level programming.
2	**Skills**	Skills in the basics of architecture and software systems.
3	**Social competencies**	Awareness of the need to expand their competences.

Assumptions and objectives of the course:

Knowledge of both theoretical and practical aspects of object-oriented programming, skills in object-oriented application development environment. NET Visual C # applications and links to databases.

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

Knowledge:

1. knows the rules of high-level programming - [K_W07++]
2. has knowledge of object-oriented programming useful when creating technical applications - [K_W07++]

Skills:

1. can be used a tool for programming using object-oriented programming elements - [KU01+]

Social competencies:

1. can think and act in a creative way - [K_K01+]

Assessment methods of study outcomes

Lecture:
-assessment of knowledge and skills listed on the completion of a written,
-continuous evaluation for each course (rewarding activity).

Laboratory:
-end test and favoring knowledge necessary for the accomplishment of problems in the area of laboratory tasks,
-continuous evaluation for each course - rewarding gain skills they met the principles and methods,
-assessment of knowledge and skills related to the implementation of the tasks your practice.

Extra points for the activity in the classroom, and in particular for:
-propose to discuss additional aspects of the subject,
-effectiveness of the application of the knowledge gained during solving the given problem,
-ability to work within a team practice performing the task detailed in the laboratory,
-subsequent to the improvement of teaching materials,
-developed aesthetic-care tasks.

Course description

Basic issues of object-oriented programming, Visual Studio C # Express Edition, the issue of representation of physical reality in data structures, declarations of object types, static and dynamic object-oriented variables, fields, methods, constructors and destructors, encapsulation, inheritance, polymorphism, abstraction, etc. Create controls, overloaded operators, artwork, prints. Basic components database.

Forms of conducting classes:
Lectures - multimedia presentations (including drawings, photographs, animations) supplemented by examples given on the whiteboard, taking into account various aspects of the presented issues, including: economic, ecological, legal and social; presentation of a new topic preceded by reminder of related content known to students from other items.
Laboratory - individual work at the computer

Basic bibliography:

1. John Sharp: Microsoft Visual C# 2015 : krok po kroku, APN Promise, 2016
2. Boduch A.:Wstęp do programowania w języku C#, Wydawnictwo Helion, Gliwice 2006
3. Farbaniec Dawid: Visual Studio 2013 : tworzenie aplikacji desktopowych, mobilnych i internetowych, Helion, Warszawa 2015
4. Vieira R.:SQL Server 2005. Programowanie od podstaw, Wydawnictwo Helion, Gliwice 2007.

Additional bibliography:

1. Perry S. C.:C# i .NET, Wydawnictwo Helion, Gliwice 2006.
2. Elmasri R., Navathe S. B.: "Wprowadzenie do systemów baz danych, Wydawnictwo Helion, Gliwice 2005

Result of average student's workload

Activity	Time (working hours)
1. lectures	15
2. laboratories	15
3. participate in the consultations on the lecture	8
4. participate in the consultations on the laboratories	6
5. preparation for laboratory	8
6. homeworks preparation	8
7. prepare for a evaluation	10

Student’s workload

Source of workload	hours	ECTS
Total workload	70	2
Contact hours	44	1
Practical activities	37	1