STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Object oriented programming**		Code **1010341541010322719**
Field of study **Mathematics**	Profile of study (general academic, practical) **(brak)**	Year /Semester **2 / 4**
Elective path/specialty **Mathematical Modelling**	Subject offered in: **polish**	Course (compulsory, elective) **obligatory**
Cycle of study: **First-cycle studies**	Form of study (full-time,part-time) **full-time**	
No. of hours Lecture: **1** Classes: **-** Laboratory: **1** Project/seminars: **-**		No. of credits **4**
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 %) **4 100%** **4 100%**

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Basic knowledge of 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 high-level programming features of object-oriented programming, the acquisition of skills development in the Microsoft. NET Visual C #

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

Knowledge:

1. Knows the rules of high-level programming - [K_W08+]
2. Has knowledge of object-oriented programming useful when creating technical applications - [K_W08+]

Skills:

1. Can use the tool for programming using object-oriented programming elements - [K_U26++, K_U27++]

Social competencies:

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

Assessment methods of study outcomes

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

Laboratory:
- The final 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.

Get extra points for the activity in the classroom, and in particular for:
- A discussion of additional aspects of the processed issues;
- The 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;
- Comments related 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 variable object, fields and methods, constructors and destructors, overloading operators, encapsulation, inheritance, polymorphism, create controls .

Basic bibliography:

1. Visual C# 2005 Express Edition. Od podstaw, J. Matulewski, Helion, Warszawa, 2006
2. Wstęp do programowania w języku C#, A. Boduch, Helion, Warszawa, 2006
3. C# i .NET, S. C. Perry, Helion, Warszawa, 2006
4. SQL Server 2005. Programowanie od podstaw, R. Vieira, Helion, Waszawa, 2007

Additional bibliography:

1. Wprowadzenie do systemów baz danych, R. Elmasri, S. B. Navathe, Helion, Waszawa, 2005
2. Internet

Result of average student's workload

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

Student’s workload

Source of workload	hours	ECTS
Total workload	95	4
Contact hours	50	2
Practical activities	55	2