

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Object-oriented programming and databases		Code 1010322311010322646
Field of study Electrical Engineering	Profile of study (general academic, practical) (brak)	Year /Semester 1 / 1
Elective path/specialty -	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: Second-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: 15 Classes: - Laboratory: 15 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. Leszek Kasprzyk email: leszek.kasprzyk@put.poznan.pl tel. 616652659 Elektryczny ul. Piotrowo 3A, 60-965 Poznań		
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		

<p>Lecture: -assessment of knowledge and skills listed on the completion of a written, -continuous evaluation for each course (rewarding activity).</p> <p>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.</p> <p>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.</p>		
Course description		
<p>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.</p>		
Basic bibliography:		
Additional bibliography:		
Result of average student's workload		
Activity	Time (working hours)	
1. lectures	15	
2. laboratories	15	
3. participate in the consultations on the lecture	5	
4. participate in the consultations on the laboratories	5	
5. preparation for laboratory	5	
6. homeworks preparation	5	
7. prepare for a evaluation	5	
Student's workload		
Source of workload	hours	ECTS
Total workload	55	2
Contact hours	40	2
Practical activities	30	1