

<b>STUDY MODULE DESCRIPTION FORM</b>		
Name of the module/subject <b>Methods of programming</b>		Code <b>1010341711010349410</b>
Field of study <b>Mathematics in Technology</b>	Profile of study (general academic, practical) <b>(brak)</b>	Year /Semester <b>1 / 1</b>
Elective path/specialty <b>-</b>	Subject offered in: <b>Polish</b>	Course (compulsory, elective) <b>obligatory</b>
Cycle of study: <b>First-cycle studies</b>	Form of study (full-time, part-time) <b>full-time</b>	
No. of hours Lecture: <b>30</b> Classes: <b>-</b> Laboratory: <b>30</b> Project/seminars: <b>-</b>		No. of credits <b>4</b>
Status of the course in the study program (Basic, major, other) <b>(brak)</b>		(university-wide, from another field) <b>(brak)</b>
Education areas and fields of science and art		ECTS distribution (number and %)
<b>Responsible for subject / lecturer:</b>  dr inż. Karol Gajda email: karol.gajda@put.poznan.pl tel. 2805 Faculty of Electrical Engineering ul. Piotrowo 3A 60-965 Poznań		
<b>Prerequisites in terms of knowledge, skills and social competencies:</b>		
1	<b>Knowledge</b>	Basic knowledge with range of secondary school.
2	<b>Skills</b>	Computer skills. The ability to effectively self-education in a field related to the chosen field of study.
3	<b>Social competencies</b>	Knowledge of the limits of their knowledge and understanding of the need for further education.
<b>Assumptions and objectives of the course:</b> Presentation of programming techniques and data structures used in programming in small and medium scale.		
<b>Study outcomes and reference to the educational results for a field of study</b>		
<b>Knowledge:</b> 1. Knowledge of the ways of the application of mathematical methods in selected areas of science. - [K_W09] 2. Elementary knowledge of information technology in the field of architecture and software computer systems, the use of basic tools and information technology, as well as knowledge of relational databases - [K_W15]		
<b>Skills:</b> 1. Is able to formulate an algorithm and use programming languages and tools of information technology. - [K_U20] 2. Has the skills of self-education, including in order to improve professional competence and social - [K_U30]		
<b>Social competencies:</b> 1. Knows limitations of their knowledge and understands the need for further education. - [K_K01]		

<b>Assessment methods of study outcomes</b>
- evaluation of knowledge acquired in the lecture - skills assessment related to the implementation of project tasks - evaluation of student preparation for classes and laboratory evaluation of skills related to the implementation of laboratory exercises - evaluation of reports - evaluation of team skills

<b>Course description</b>		
Revised 2017		
<ul style="list-style-type: none"> <li>- Recursion</li> <li>- Programming with recurrent</li> <li>- The method of divide et impera</li> <li>- Dynamic data structures</li> <li>- Linear data structure</li> <li>- Trees</li> </ul>		
<b>Basic bibliography:</b>		
<ol style="list-style-type: none"> <li>1. G. Cornell, C. Horstmann, Core Java.</li> <li>2. B. Eckel, Thinking in Java.</li> </ol>		
<b>Additional bibliography:</b>		
<ol style="list-style-type: none"> <li>1. <a href="http://wazniak.mimuw.edu.pl/index.php?title=Metody_programowania">http://wazniak.mimuw.edu.pl/index.php?title=Metody_programowania</a></li> </ol>		
<b>Result of average student's workload</b>		
Activity	Time (working hours)	
1. participation in lectures (15x2 hrs.)	30	
2. participation in laboratory classes (15x2 hrs.)	30	
3. participation in the consultations related to the implementation of the education process, in particular laboratory / project	10	
4. completion (within own work) reports on laboratory exercises	5	
5. write a program / programs, commissioning and verification (time outside of the classroom laboratory)	15	
6. preparation for laboratory exercises	5	
7. preparation for tests / test	5	
8. read with the specified literature / teaching materials		
<b>Student's workload</b>		
Source of workload	hours	ECTS
Total workload	115	4
Contact hours	70	2
Practical activities	75	3