

<b>STUDY MODULE DESCRIPTION FORM</b>		
Name of the module/subject <b>Mathematics</b>		Code <b>1011105221011100063</b>
Field of study <b>Engineering Management - Part-time studies -</b>	Profile of study (general academic, practical) <b>(brak)</b>	Year /Semester <b>1 / 2</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>part-time</b>	
No. of hours Lecture: <b>10</b> Classes: <b>10</b> Laboratory: <b>-</b> Project/seminars: <b>-</b>		No. of credits <b>5</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 Grzegorz Grzegorzczyk email: grzegorz.grzegorzczyk@put.poznan.pl tel. 61 665 26 87 Wydział Elektryczny ul. Piotrowo 3A 60-965 Poznań		<b>Responsible for subject / lecturer:</b> Małgorzata Zbąszyniak email: malgorzata.zbaszyniak@put.poznan.pl tel. 61 665 27 12 Wydział Elektryczny ul. Piotrowo 3a, 60-965 Poznań
<b>Prerequisites in terms of knowledge, skills and social competencies:</b>		
1	<b>Knowledge</b>	Basic knowledge from first semester.
2	<b>Skills</b>	The ability to think logically. Ability to describe simple problems in mathematical language.
3	<b>Social competencies</b>	Working in a group.
<b>Assumptions and objectives of the course:</b> Acquiring and consolidating of basic mathematical concepts using examples and skills in mathematical tools.		
<b>Study outcomes and reference to the educational results for a field of study</b>		
<b>Knowledge:</b>		
1. Has knowledge of selected branches of higher mathematics - [K1A_W01]		
2. Application of mathematics to solve selected technical problems - [K1A_W01]		
<b>Skills:</b>		
1. Able to use the basic knowledge of mathematics as a tool in logistics - [K1A_U09]		
2. Able to perform studies using mathematical tools - [K1A_U09]		
<b>Social competencies:</b>		
1. He understands the need to deepen their mathematical knowledge - [ T1A_KO1]		
2. Is conscious of the need for learning throughout life - [ T1A_KO1]		
<b>Assessment methods of study outcomes</b>		
Lectures: forming evaluation - activity cards, summary assessment - written and oral exam		
Exercises: formowaniaea evaluation - written tests, evaluation summarizes - written test		
<b>Course description</b>		
Elements of the integral calculus of functions of single variable.		
Series of numbers.		

Ordinary Differential Equations. Functions of several variables.		
<b>Basic bibliography:</b>		
1. Foltińska, Z. Ratajczak, Z. Szafranski, Matematyka dla studentów uczelni technicznych, WPP Poznań 2000		
2. M. Gewert, Z. Skoczylas, Analiza matematyczna 1, Definicja, twierdzenia, wzory		
3. M. Gewert, Z. Skoczylas, Analiza matematyczna 1, Przykłady i zadania		
4. T. Jurliewicz, Z. Skoczylas, ALgebra liniowa 1, Definicja, twierdzenia, wzory		
5. T. Jurliewicz, Z. Skoczylas, ALgebra liniowa 1, Przykłady i zadania		
<b>Additional bibliography:</b>		
1. W. Krywicki, L. Włodarski, Analiza matematyczna w zadaniach, t. I-II, PWN Warszawa 1999		
2. W. Stankiewicz, Zadania z matematyki dla wyższych uczelni technicznych, t. I-II		
3. M. Lassak, Matematyka dla studentów technicznych		
<b>Result of average student's workload</b>		
<b>Activity</b>	<b>Time (working hours)</b>	
1. Lectures	10	
2. Classes	10	
3. Consultation	30	
4. Preparing to classes	10	
5. Preparing to pass the lectures	10	
6. Exam	4	
<b>Student's workload</b>		
<b>Source of workload</b>	<b>hours</b>	<b>ECTS</b>
Total workload	74	5
Contact hours	54	3
Practical activities	10	1