

<b>STUDY MODULE DESCRIPTION FORM</b>		
Name of the module/subject <b>Mathematics</b>		Code <b>1011101421010340063</b>
Field of study <b>Logistics - Full-time studies - First-cycle 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>full-time</b>	
No. of hours Lecture: <b>15</b> Classes: <b>30</b> Laboratory: <b>-</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 <b>social sciences</b>		ECTS distribution (number and %) <b>4 100%</b>
<b>Responsible for subject / lecturer:</b>  dr Grzegorz Grzegorzcyk email: grzegorz.grzegorzcyk@put.poznan.pl tel. 61 665 26 87 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>		
Tests, written and oral exam.		
<b>Course description</b>		

<p>Elements of the integral calculus of functions of single variable.          Series of numbers.          Ordinary Differential Equations.          Functions of several variables.</p>		
<p><b>Basic bibliography:</b>          1. I. Folyńska, Z. Ratajczak, Z. Szafranski, Matematyka dla studentów uczelni technicznych, cz II i III, WPP, Poznań 2000.</p>		
<p><b>Additional bibliography:</b>          1. W. Żakowski, Matematyka, t. I, Wydawnictwa Naukowo-Techniczne, Warszawa 2003.          2. F. Leja, Rachunek różniczkowy i całkowy, PWN, Warszawa 1978.          3. W. Krywicki, L. Włodarski, Analiza matematyczna w zadaniach, PWN, Warszawa 1999.</p>		
<p><b>Result of average student's workload</b></p>		
<p><b>Activity</b></p>	<p><b>Time (working hours)</b></p>	
<p>1. Lectures                  2. Classes                  3. Consultation                  4. Preparing to classes                  5. Preparing to pass the lectures                  6. Exam</p>	<p>30                  15                  15                  15                  23                  2</p>	
<p><b>Student's workload</b></p>		
<p><b>Source of workload</b></p>	<p><b>hours</b></p>	<p><b>ECTS</b></p>
Total workload	100	4
Contact hours	60	2
Practical activities	30	2