

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Mathematics		Code 1011101221010340063
Field of study Logistics - Full-time studies - First-cycle studies	Profile of study (general academic, practical) (brak)	Year /Semester 1 / 2
Elective path/specialty -	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: 15 Classes: 30 Laboratory: - 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: dr Grzegorz Grzegorzczyk email: grzegorz.grzegorzczyk@put.poznan.pl tel. 61 665 26 87 Wydział Elektryczny ul. Piotrowo 3A 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Basic knowledge from first semester.
2	Skills	The ability to think logically. Ability to describe simple problems in mathematical language.
3	Social competencies	Working in a group.
Assumptions and objectives of the course: Acquiring and consolidating of basic mathematical concepts using examples and skills in mathematical tools.		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. Has knowledge of selected branches of higher mathematics - [K1A_W01]		
2. Application of mathematics to solve selected technical problems - [K1A_W01]		
Skills:		
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]		
Social competencies:		
1. He understands the need to deepen their mathematical knowledge - [T1A_KO1]		
2. Is conscious of the need for learning throughout life - [T1A_KO1]		
Assessment methods of study outcomes		
Tests, written and oral exam.		
Course description		

<p>Elements of the integral calculus of functions of single variable. Series of numbers. Ordinary Differential Equations. Functions of several variables.</p>		
<p>Basic bibliography: 1. I. Folyńska, Z. Ratajczak, Z. Szafranski, Matematyka dla studentów uczelni technicznych, cz II i III, WPP, Poznań 2000.</p>		
<p>Additional bibliography: 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>Result of average student's workload</p>		
<p>Activity</p>	<p>Time (working hours)</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>Student's workload</p>		
<p>Source of workload</p>	<p>hours</p>	<p>ECTS</p>
Total workload	100	4
Contact hours	60	2
Practical activities	30	2