

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Mathematics		Code 1011101311010340063
Field of study Logistics - Full-time studies - First-cycle studies	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: First-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: 30 Classes: 15 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		ECTS distribution (number and %)
Responsible for subject / lecturer: Grzegorz Grzegorzcyk email: grzegorz.grzegorzcyk@put.poznan.pl tel. 61 665 26 87 Wydział Elektryczny ul. Piotrowo 3a, 60-965 Poznań		Responsible for subject / lecturer: Zenon Zbąszyniak email: zenon.zbaszyniak@put.poznan.pl tel. 61 665 27 12 Wydział Elektryczny ul. Piotrowo 3a, 60-965 Poznań
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Basic knowledge mathematics with range of secondary school.
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 on examples and skills in mathematical apparatus.		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. Has knowledge of selected aspects of higher mathematics - [T1A_WO1]		
2. Application of mathematics to solve technical problems - [T1A_WO1]		
Skills:		
1. Can use basic knowledge of mathematics as a tool in management - [T1A_UO9]		
2. Can perform studies using mathematical apparatus - [T1A_UO9]		
Social competencies:		
1. Understand and apply formal mathematical apparatus in management - [T1A_KO4]		
Assessment methods of study outcomes		
Lectures: forming evaluation - activity cards, summary evaluation - written and oral exam		
Exercises: formative assessment - written tests, summary evaluation - written exam		
Course description		
Elements of linear algebra. Strings and string limit. Functions of one variable.		

<p>Continuity and limit of the function of one variable. Elements of the differential calculus of functions of one variable.</p> <p>Teaching methods: Lecture - informative and conversational lecture Exercises - a method of training</p>		
<p>Basic bibliography:</p> <ol style="list-style-type: none"> 1. Folyńska, Z. Ratajczak, Z. Szafranski, Matematyka dla studentów uczelni technicznych, WPP Poznań 2000 2. Folyńska, Z. Ratajczak, Z. Szafranski, Matematyka dla studentów uczelni technicznych, WPP Poznań 2000 3. M. Gewert, Z. Skoczylas, Analiza matematyczna 1, Definicja, twierdzenia, wzory 4. M. Gewert, Z. Skoczylas, Analiza matematyczna 1, Przykłady i zadania 5. T. Jurlewicz, Z. Skoczylas, ALgebra liniowa 1, Definicja, twierdzenia, wzory 6. T. Jurlewicz, Z. Skoczylas, ALgebra liniowa 1, Przykłady i zadania 		
<p>Additional bibliography:</p> <ol style="list-style-type: none"> 1. W. Krywicki, L. Włodarski, Analiza matematyczna w zadaniach, PWN Warszawa 1999 2. W. Krywicki, L. Włodarski, Analiza matematyczna w zadaniach, t. I-II, PWN Warszawa 1999 3. W. Stankiewicz, Zadania z matematyki dla wyższych uczelni technicznych, t. I-II 4. M. Lassak, Matematyka dla studentów technicznych 		
<p>Result of average student's workload</p>		
<p>Activity</p>		<p>Time (working hours)</p>
1. Lectures		30
2. Classes		15
3. Consultation		15
4. Preparing to classes		15
5. Preparing to pass the lectures		15
6. Preparing to pass the classes		16
7. Pass classes		2
8. Pass lectures		2
<p>Student's workload</p>		
<p>Source of workload</p>	<p>hours</p>	<p>ECTS</p>
Total workload	110	4
Contact hours	64	2
Practical activities	15	1