STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Mathematics**		Code **101110431101010340063**
Field of study **Logistics - Part-time studies - First-cycle**	Profile of study (general academic, practical) **general academic**	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) **part-time**	

No. of hours				No. of credits
Lecture: **10**	Classes: **10**	Laboratory: **-**	Project/seminars: **-**	**4**

Status of the course in the study program (Basic, major, other) **other**	(university-wide, from another field) **university-wide**

Education areas and fields of science and art **technical sciences** **Technical sciences**	ECTS distribution (number and %**)** **4 100%** **4 100%**

Responsible for subject / lecturer: Grzegorz Grzegorczyk email: grzegorz.grzegorczyk@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.

Continuity and limit of the function of one variable.

Elements of the differential calculus of functions of one variable.

Teaching methods:

Lecture - informative and conversational lecture

Exercises - a method of training

Basic bibliography:

1. I. Foltyńska, Z. Ratajczak, Z. Szafrański, Matematyka dla studentów uczelni technicznych, t. I-III

2. M. Gewert, Z. Skoczylas, Analiza matematyczna 1, Definicja, twierdzenia, wzory

3. M. Gewert, Z. Skoczylas, Analiza matematyczna 1, Przykłady i zadania

4. T. Jurlewicz, Z. Skoczylas, ALgebra liniowa 1, Definicja, twierdzenia, wzory

5. T. Jurlewicz, Z. Skoczylas, ALgebra liniowa 1, Przykłady i zadania

Additional bibliography:

1. W. Krysicki, L. Włodarski, Analiza matematyczna w zadaniach, t. I-II

2. W. Stankiewicz, Zadania z matematyki dla wyższych uczelni technicznych, t. I-II

3. M. Lassak, Matematyka dla studentów technicznych,

Result of average student's workload

Activity	Time (working hours)
1. Lectures	10
2. Classes	10
3. Consultation	5
4. Preparing to classes	20
5. Preparing to pass the lectures	20
6. Preparing to pass the classes	20
7. Literature studying	20

Student's workload

Source of workload	hours	ECTS
Total workload	105	4
Contact hours	25	2
Practical activities	10	1