STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Mathematics**		Code **1011101411010340063**
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 **social sciences** **Economics**		ECTS distribution (number and %) **4 100%** **4 100%**

Responsible for subject / lecturer:

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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 logistics - [T1A_UO9]
2. Can perform studies using mathematical apparatus - [T1A_UO9]

Social competencies:

1. Understand and apply formal mathematical apparatus in studies of logistics processes - [T1A_KO4]

Assessment methods of study outcomes

Tests, written and oral exam

Course description

http://www.put.poznan.pl/

Elements of linear algebra.
Sequences and their limits.
The functions of single variable.
Continuity and limit of functions of single variable.
Elements of the differential calculus of functions of single variable.

Basic bibliography:

1. I. Foltyńska, Z. Ratajczak, Z. Szafrański, Matematyka dla studentów uczelni technicznych, cz. I i II, Wydawnictwo Politechniki Poznańskiej, Poznań 2000.

Additional bibliography:

1. W. Żakowski, Matematyka, t. I, Wydawnictwa Naukowo-Techniczne, Warszawa, 2003.
2. F. Leja, Rachunek różniczkowy i całkowy. Państwowe Wydawnictwo Naukowe, Warszawa 1978.

Result of average student's workload

Activity	Time (working hours)
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

Student’s workload

Source of workload	hours	ECTS
Total workload	110	4
Contact hours	64	2
Practical activities	48	2

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