



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Mathematics [S1Log2>MAT1]

### Course

Field of study

Logistics

Year/Semester

1/1

Area of study (specialization)

–

Profile of study

general academic

Level of study

first-cycle

Course offered in

Polish

Form of study

full-time

Requirements

compulsory

### Number of hours

Lecture

30

Laboratory classes

0

Other

0

Tutorials

15

Projects/seminars

0

### Number of credit points

4,00

### Coordinators

dr Grzegorz Grzegorzcyk

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### Lecturers

### Prerequisites

The basic knowledge obtained in high school. The ability to think logically. The ability to mathematical description of simple problems. The ability to work in groups.

### Course objective

The acquisition and consolidation of examples of basic mathematical concepts and acquire the ability to use the mathematical apparatus.

### Course-related learning outcomes

Knowledge:

1. Student knows the basic issues of mathematics in the study of the structure of economic and logistic phenomena [P6S\_WG\_04]

Skills:

1. Student is able to apply appropriate computational techniques to solve a problem within mathematics [P6S\_UW\_03]

2. Student is able to choose the right tools and methods for solving a problem within mathematics, and

to use them effectively [P6S\_UO\_02]

Social competences:

1. Student is aware of initiating activities related to the formulation and transfer of information and cooperation in the society in the field of mathematics [P6S\_KO\_02]

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture: Knowledge acquired during the lecture is verified during one test on the last lecture. The final grade consists of a test grade (80%) and a grade for activity during classes (20%). Passing threshold: 50% of the points.

Tutorials: The knowledge acquired during the tutorials is verified during one test at the end of the semester. During the classes, students receive points for activity, 80% of the final grade is the result of the test, and 20% of points for activity. Passing threshold: 50% of the points.

### Programme content

Lecture: Elements of linear algebra. Functions of one variable. Differential calculus of one-variable functions.

Tutorials: practical tasks.

### Course topics

Lecture: Elements of linear algebra: matrices and determinants, systems of linear equations, vectors, scalar and vector product, surface and straight line in space. Functions of one variable: graphs of elementary and rational functions, function limits, inverse functions. Differential calculus of one-variable functions.

Tutorials: practical tasks.

### Teaching methods

Lecture: oral presentation with examples and formulas, which are presented using a visualizer.

Tutorials: presentation of exemplary tasks on the blackboard and individual solving of similar examples by students - practical exercises.

### Bibliography

Basic:

1. Foltyńska I., Ratajczak Z., Szafranski Z., Matematyka dla studentów uczelni technicznych, cz. I, WPP, Poznań 2000.

Additional:

1. Krysicki W., Włodarski L., Analiza matematyczna w zadaniach, PWN, Warszawa 1999

### Breakdown of average student's workload

	Hours	ECTS
Total workload	100	4,00
Classes requiring direct contact with the teacher	45	2,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	55	2,00