

Mathematics
B 1.1.2.4

Degree: Bachelor

Year: 1

Semester: Fall / Spring

General workload: 6 ECTS credits, 216 hours

Goals of the course

- To acquire fundamental mathematical knowledge necessary for doing the research, modeling social and economic processes and phenomena and solving practical problems in computer science and economics;
- To acquire basic mathematical knowledge in linear algebra and mathematical analysis that is necessary for understanding discrete mathematics, probability theory and other mathematical disciplines;
- To develop logical and algorithmic thinking

Key didactic units

Matrices and determinants. Linear equations. Linear transformations and quadratic forms. Linear programming. Complex numbers. The theory of limits. Differential calculus of functions of one variable. Integral calculus of functions of one variable. Function of several variables. Series. Differential equations.

Place of the discipline within the curriculum

The course is part of the mathematics and computer science module of program 38.03.01 in Economics.

Upon completing the course, the students should:

Know: key concepts, calculation methodology and linear algebra and mathematical analysis methods.

Be able to: solve standard mathematical problems, develop and examine mathematical models, use mathematical methods for solving applied problems.

Have: skills needed for using mathematical tools for solving economic problems.

Course structure: lectures and practicals; independent student work; test.

Summative assessment: *pass/fail examination (semester 1) /examination (semester 2).*