Level: bachelor	
Course title: MATHEMATICS WITH STATISTICS	**Course code: OB008**
Status: elective	
ECTS: 7	
Requirements: none	

Learning objectives

Introduction to the basic elements of classical mathematics and basic methods of applied mathematics. Introduction to basic statistical tools and statistical inference.

Learning outcomes

Students will develop the ability to independently model the simple phenomena in biology, as well as to study mathematical models of complex phenomena with understanding.

Syllabus

Theoretical instruction

Systems of linear equations. Vectors and matrices. Differential calculus. Integral calculus. Differential equations. Numerical solution of ordinary and partial differential equations. Mathematical models in biology. Descriptive statistics: collection, processing and presentation of statistical data. Population and sample. Measures of central tendency. Measures of dispersion. Random variables. Distribution. Inferential statistics: inference from sample to population. Confidence intervals. Hypothesis testing. Correlation and regression.

Practical instruction

Exercises through concrete examples from practice that completely follow the lectures.

Weekly teaching load				
Lectures: 3	Exercises: 3	Other forms of teaching:	Student research:	Other: