

Study programme: Geography Teaching, Geography			
Course title: Statistical methods in Geography (G107)			
Teacher(s): dr Milica Žigić			
Status: elective			
ECTS: 6			
Requirements: none			
Learning objectives			
Acquiring basic knowledge of Statistics and statistical methods and their application in Geography			
Learning outcomes			
Students will learn the basic notions in Statistics and achieve the ability to solve practical problems in Statistics by using statistical methods and programs.			
Syllabus			
<i>Theoretical part:</i>			
Basic elements of probability theory, discrete and absolutely continuous random variables, Multidimensional random variables. Important distributions of random variables, numerical characteristics of random variables (expectation, moments, mode, median), measures of deviation of random variable from the center of accumulation (variance, standard deviation, central moments, Coefficient of variation, asymmetry, excess), multidimensional correlation.			
Statistical concluding, basic statistical notions, population, sample, statistical research, estimation of parameters of the distribution: point's estimation of the numerical characteristics of the sample (sample mean, mode, median, variance and standard deviation, coefficient of correlation), interval estimation of the parameters of distribution of the sample (intervals of confidence).			
Testing statistical hypothesis. Testing compatibility of the sample in accordance with distribution. Testing the independence of two samples. Regression analysis (linear, nonlinear, power, exponential model), error estimate and coefficient of the correlation. Time series.			
<i>Practical part:</i>			
The entire course is based on examples from Geography, Climatology and Statistics of population.			
Literature			
1. J. A. Matthews, W. B. Fisher (1981): <i>Quantitative and Statistical Approaches to Geography. A practical Manual</i> , Pergamon Press, Oxford			
2. M. F. Acevedo (2013): <i>Data Analysis and Statistics for Geography, Environmental Science, and Engineering</i> , CRC Press, Taylor & Francis Group, Boca Raton			
Weekly teaching load 4 (60)	Lectures 2	Exercises 2	
Methods of Teaching			
Lectures, Illustration and Demonstration, Practical skills			
Grading method (maximu 100 points)			
Pre-examination assignments	points	Final examination	points
Activities during lectures	5	Written examination	30
Activities during exercises	5	Oral examination	20
Colloquia	40	
Seminar paper			