Study programme: Bachelor with honours in Geography	

Course title: Quantitative methods in geo-sciences

Teacher(s): dr Stevan Savić, dr Daniela M. Arsenović

Status: compulsory/elective

ECTS: 8

Requirements: none

Learning objectives

Students will be familiar with the most important statistical methods that are widely used in natural and social geographical disciplines. At the same time, students will be familiar with the current software packages that supports a variety of statistical methods and provide prompt and adequate calculation.

Learning outcomes

Getting theoretical basis of statistical methods used in geo sciences, as well as to have adequate knowledge and skills to use different statistical software programs that perform the calculation through them and read the results.

Syllabus

Theoretical part:

Descriptive statistics, data standardization (standardized rate), regression (linear, multi-linear) correlation coefficient, t-test, histogram analysis swarms points, percentile method, cluster analysis.
The analysis of time series data from different geographical phenomena and processes (in climatology, hydrology, population, environment, etc.).

Practical part:

Work with software packages: Excel, Statistica and SPSS. Creating a database.

Literature

Petz, B. 1981. Osnovne statističke metode za nematematičare. SNL, Zagreb: 1-409.
Rogerson, P.A. 2008. Statistical Methods for Geography – A Student's Guide. SAGE, London: 304 pp.
Tepavčević, A., Lužanin, Z. 2006. Matematičke metode u taksonomiji. Univerzitet u Novom Sadu, Prirodno-matematički fakultet, Departman za matematiku i informatiku, Novi Sad: 1-198.
Ristić, M., Popović, B., Đorđević, M. 2006. Statistika za studente geografije. PMF, Niš: 1-184.
Savić, S. 2009. Kretanje ekstremnih temperatura vazduha na području Vojvodine u periodu 1951-2000. Doktorska disertacija u rukopisu. Univerzitet u Novom Sadu, Prirodno-matematički fakultet, Departman za geografiju, turizam i hotelijerstvo, Novi Sad, 1-261.
Arsenović, D. 2014. Uticaj temperature vazduha na sezonalnost mortaliteta u Novom Sadu. Doktorska disertacija u rukopisu. Univerzitet u Novom Sadu, Prirodno-matematički fakultet, Departman za geografiju, turizam i hotelijerstvo, Novi Sad, 1-184.

Weekly teaching load 4 (60)	**Lectures 3**	**Exercises 1**

Methods of Teaching

Lectures: classical teaching methods, with the use of computers as an aid to illustrate the content. Exercises: preparation tasks that follow theoretical lessons; the use of computers for solving problems and using statistical packages: Excel, Statistica and SPSS.

Grading method (maximu 100 points)

Pre-examination assignments	points	**Final examination**	points
Activities during lectures	**0-5**	Written examination	
Activities during exercises	**0-5**	Oral examination	**30-45**
Colloquia	**20-40**	....	
Seminar paper	**0-5**		