

Study programme: Bachelor with honours in Geography Teaching / Bachelor with honours in Geography			
Course title: Basics of GIS			
Teacher(s): Uglješa Stankov			
Status: elective			
ECTS: 6			
Requirements: none			
Learning objectives			
Providing students with basic knowledge about geographic information systems (GIS), enabling them for self-improvement and encouraging them to further in-depth study on advanced course levels.			
Learning outcomes			
Students will be able to enter and edit data in GIS, effectively find the required data, create digital maps and use GPS.			
Syllabus			
<i>Theoretical part:</i>			
The main properties of the system: Information, Information Systems. Definition of geographic information systems: functional and conceptual property of GIS, technological characteristics of GIS. Component of geographic information systems: GIS hardware, software architecture, humanware. The emergence and development of GIS: Phases of scientific and technological development of GIS; Expansion and commercialization of GIS. The structure of spatial data and models: Basic features, thematic characteristics of the data, geographic data types (raster data, vector data, alphanumeric data, digital elevation model), data collection and input data (data sources in GIS, data quality and finding errors). Fundamentals of remote sensing, global positioning system. Data modelling (conceptual, logical and physical modelling). Fundamentals of geographic databases. Methods of searching and processing data using GIS. Graphic presentation. Analysis of spatial data. Basics of Web GIS.			
<i>Practical part:</i>			
Creating and managing data in ArcCatalog. Visualization of data in ArcMap. Integrating data in a geo-database. The selection of geo-objects. Symbolizing data. Labels and annotation. Preparing maps for publishing. Use of GPS receivers.			
Literature			
1. Heywood, I., Cornelius, S., Carver, S. (2006). An Introduction to Geographical Information Systems. Prentice Hall Upper Saddle River			
2. Chang, K. (2010): Introduction to Geographic Information Systems. Mc Graw Hill, New York.			
Weekly teaching load 4	Lectures 2	Exercises 2	
Methods of Teaching			
- Lecture method			
- Demonstration method			
- Practical exercise			
Grading method (maximum 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		