Study programme: Bachelor with honours in Geography

Course title: Geographic information systems

Teacher(s): dr Minučer Mesaroš

Status: compulsory

ECTS: 9

Requirements: none

Learning objectives

Detailed introduction of GIS functions for input, processing and visualization of geospatial data. Introducing students to with different aspects of GIS applications in various activities in fundamental research as well as in applied technical and technological fields. Qualifying students for the beginning of individual work in GIS environment: finding data sources, their processing and interpretation and creation of cartographic and graphical display of the results of geospatial analyisis.

Learning outcomes

Developed skills for independent acquiring, input, processing and visualisation of geospatial data, which enables further individual work and learning in the filed of GIS. Good knowledge of GIS application in different areas, which facilitates for students the choice of the specialisation field and further professional engagement and improvement in the discipline of geographic information technologies.

Syllabus

Theoretical part:
History of GIS development. Geospatial data and geospatial data models. Data querry and finding geographic data. Assesment of relevance and quality of data. Terrain survey using GPS. Forms of remote sensing application. Advanced techniques of creating, verifying and processing vector data. Structure of geospatial databases. Geoprocessing. Methods of raster data acquisition and generation. Unsupervised and supervised classification. Graphical representation techniques for the results of geospatial analyis. Thematic mapping. Application of GIS in geosciences and interdisciplinary research. Application of GIS in economy. Application of GIS in government institutions. GIS in Serbia. Perspectives of GIS development in the future.

Practical part:

Introduction to functions for geospatial data entry, processing, analyisis and graphical representation trough practical work with the ArcGIS Desktop program.

Literature

Burrough, P & McDonnell R (2006) Принципи географских информационих система, Грађевински факултет Универзитета у Београду (превод), Београд

Srbović, D., Gajović, V. (2015). ArcGIS for Desktop 10x- Korisničko uputstvo. GDi GISDATA, Beograd.

Lemmens, M. (2011) Geo-information Technologies, Applications and the Environment, Springer, Netherlands

Weekly teaching load 7 (105)	**Lectures: 4**	**Exercises: 3**

Methods of Teaching

Oral presentations, illustrative-demonstrative method (on the computer), practical classes.

Grading method (maximu 100 points)

Pre-examination assignments	points	**Final examination**	points
Activities during lectures	**0-5**	Written examination	**30-45**
Activities during exercises	**0-5**	Oral examination	
Colloquia	**10-20**	.....	
Seminar paper	**0-25**		