Study programme: Bachelor with honours in Geography

Course title: Introduction to geoinformatics

Teacher(s): dr Minučer Mesaroš

Status: compulsory

ECTS: 8

Requirements: none

Learning objectives

Acquiring knowledge about geoinformatics as a systematic approach for selection of appropriate tools and techniques to collect, store, integrate, model, analyze, search, transform, display and distribute geo-referenced data from different sources with clearly defined features in digital form.

Learning outcomes

Students will be familiar with the basic characteristics of disciplines that make up Geoinformatics, which will make basis for further development.

Syllabus

Theoretical part:

The concept of geoinformatics. Optimal storage, transfer and graphic representation of geospatial data. Data and information. The problems of survey, measurement, sampling, acquiring and generalization of data about dynamic phenomena from the geosphere. The most frequently used spatial reference systems and the concept of geoid. The concept of model in geoinformatics. Advanced methods of creating and processing vector and raster data, choosing the geospatial data model and method of data processing. Interpolation. Problem of interoperability, spatial data infrastructure and metadata. Methods of automated information processing. Development perspectives of geoinformatics in the future.

Practical part:

Work in ArcGIS, using spatial databases. Finging relevant data sources, working with metadata. Acquiring and data input in ArcGIS. Field survey using GNSS equipement.

Literature

Burrough, P. & McDonnell, R. 2006. Principi geografskih informacionih sistema, Građevinski fakultet Univerziteta u Beogradu (prevod), Beograd

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

Longley, P., Goodchild, M., Maguire, D., Rhind D., 2015., Geographical Information Systems and Science, Willey, USA

Weekly teaching load 6 (90)	**Lectures: 4**	**Exercises:2**

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	
Activities during exercises	**0-5**	Oral examination	**30-45**
Colloquia	**10-20**	.....	
Seminar paper	**0-25**		