Study programme: MAS Geography

Course title: Systems for decision support and management of the natural resources

Teacher(s): dr Milivoj B. Gavrilov

Status: Elective

ECTS: 5

Requirements: none

Learning objectives: To learn about new ways to make decisions on the use of ICT in the management of natural resources in terms of control, use and sustainable development.

Learning outcomes

Minimum:

Student acquires knowledge and skills for collecting, recording, analyzing, modeling, use, protection, archiving, mapping (visual representation), natural resources using GIS and related information technologies.

Desired:

The student must demonstrate that he is able to understand the benefits of objective management of natural resources using geographical data over other modes of management without sufficient use of geographic data.

Syllabus

Theoretical part:

Sources of geographic data. Classification of geographic data. Historical and current geographical data. Modern measurement data. Data formats and converting them into geographic databases. Historical conversion data into the contemporary geographical formats and vice versa. Interactive communication geographical and other databases. Processing, display and archiving. Using geographic information for natural resource management.

Practilac part:

Design and development of data formats and their bases. Creating a model of decision making and its testing using only historical and / or (actual) measured and formatted data.

Literature:

1. Hrnjak I., M. B. Gavrilov, S. B. Marković, T. Lukić, I. Tošić, M. Unkašević, 2013: *Special software for aridity indices calculation (AICS); Vojvodina, Serbia case study*, Journal of the Geographical Institute Jovan Cvijic, 83-94, doi:10.2298/IJGI1303083H
2. Gavrilov M. B., 2011: *Menadžiranje geofizičkim podacima-skripta*, Departman za geografiju turizam i hotelijerstvo, PMF u Novom Sadu
3. Јовановић В., 2000: *Географска информациона наука*, Универзитет Мегатренд, Београд,
4. Longley P., Goodchild M., Maguire D., Rhind D., 2000: *GEOGRAPHICAL INFORMATION SYSTEMS AND SCIENCE*, WILEY&SONS Ltd.
5. Knight A., 2000: *Basics of MATLAB and Beyond*, Chapman&HALL/CRC.

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	**0-5**	Written examination	
Activities during exercises	**0-5**	Oral examination	**30-45**
Colloquia	**20-40**	.....	
Seminar paper	**0-5**		