Level: Master	

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Course title: Remote sensing of geospatial data

Status: Elective

ECTS: 6

Requirements: No

Learning objectives: The objectives of course refer to the basic and applied knowledge in the field of remote sensing.

Learning outcomes: Digital display elements, features and processes of geospatial area by image processing (satellite and aero photo).

Syllabus

Theoretical instruction

1. Introductory remarks on the principle of functioning remote sensing (case study-Earth, electromagnetic energy, sensors, platforms, recording, interpretation).
2. Products of remote sensing (terrestrial images, aero photo, satellite images).
3. Rectification shots (basic image processing procedures used in remote sensing).
4. Improvement of visual interpretation (basic image processing procedures used in remote sensing).
5. Supervised and unsupervised classification (basic image processing procedures used in remote sensing).
6. Biophysical modelling (basic image processing procedures used in remote sensing).
7. Global positioning and remote monitoring (GPS technology).
8. The integration of images with GIS, software packages at remote sensing (software Idrisi and TNT – school version).
9. Aero Photo – Processing for Geospatial Research (georeferencing, integration, etc.).
10. Satellite imagery for Geospatial Research (proceedings of the image processing).
11. Photographic interpretation of geospatial area.
12. Measurements on remote images (dotted, line and polygon objects).
13. Digital display elements, features and processes of geospatial area by images processing – aero photo.
14. Digital display elements, features and processes of geospatial area by images processing – satellite images.
15. The application of geographical science.

Practical instruction

Practical applications, in lectures, presented concepts, based on the image processing procedures (at legal software). From the first up to fifteen weeks are work in software Idrisi or TNT.

References:

1. Campbell B. (1996): **Introduction to Remote Sensing**, Taylor & Francis, London
2. Konecny G. (2003): **Geoinformation – Remote Sensing** *Photogrametry and Geographic Information Systems*, University of Hannover, Hannover, Germany
3. Милановић М., Љешевић М. (2009): **Теледетекционе методе истраживања животне средине**, Географски факултет, Универзитет у Београду, Београд
4. Олујић М. (2001): **Снимање и истраживање Земље из свемира**, Хрватска Академија знаности и умјетности и Геосат, Загреб
5. Павловић Р., Чупковић Т., Марковић М. (2001): **Даљинска детекција**, Универзитет у Београду, Рударско-геолошки факултет, Београд

Weekly teaching load 2 (30)				Other:
Lectures: 2	Exercises:	Other forms of teaching:	Student research:	

Methods of teaching: Frontal teaching through multimedia presentations

Grading (maximum points 100)			
Pre-exam obligations	Points	**Final Exam**	Points
Activities during lectures	**0-5**	Test paper	-
Practical training	**0-5**	Oral examination	**0-50**
Tests	**0-20**		
Graphic work	**0-20**		