Level: **bachelor**

Course title: Geospatial data acquisition, processing and visualization

Status: elective

ECTS: 6

Requirements: none

Learning objectives

Learning advanced techniques and functions of GIS in the process of acquiring, processing, classification, investigating and visualization of geospatial data.
Through a series of practical examples, students learn about all stages of data analysis, from the terrain measurements and remote sensing, techniques of automated classification, to the final visual presentation of results.

Learning outcomes

By completing this course, the students gain insight into a large number of applied, advanced methods and functions used in all phases of geospatial analysis, from acquiring, to processing and visualisation of data.

Syllabus

Theoretical instruction

Remote sensing as a source of geospatial data;
Automated image analysis;
Transfer and display of data from GPS devices;
Techniques of automated digitalization;
3D digital terrain model generation from stereoscopic images;
Methods of digital terrain model analysis;
Examples of modelling natural phenomena in GIS;
Anaglyph visualisation.

Practical instruction

Using highly precise GPS devices for sub-meter accuracy measurements, with various signal-correcting techniques.

Weekly teaching load				Other:
Lectures: 2	Exercises: 1	Other forms of teaching:	Student research:	