Level: bachelor

Course title: Introduction to Geoinformatics

Status: obligatory/elective

ECTS: 8

Requirements:

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 instruction and Practical instruction

Defining geo-informatics. Data and information. Geodesy and Cartography. The basic elements of photogrammetry (analogue, analytical and digital). The basic elements of remote sensing (electromagnetic spectrum, passive and active remote monitoring). Basics of informatics (computer systems, network infrastructure, the evolution of hardware and software in geo-informatics). Data acquisition systems (generation recordings, instruments, resolutions, and programs of satellites for Earth observation systems, aerial surveillance, data collecting instruments in the field). Satellite positioning systems (NAVSTAR GPS, GLONASS and Galileo). Digital image processing (transformation, pre-processing, processing, quantitative analysis). Elements of geographic information systems. Systems for decision support and expert systems. Ontology. Land Use / Land Cover systems.

Weekly teaching load		**5 (75)**		Other:
Lectures: 3	Exercises: 2	Other forms of teaching:	Student research:	