Level: bachelor				
Course title: Basics of GIS				
Status: elective				
ECTS: 6				
Requirements: -				

Learning objectives

Providing students with basic knowledge about geographic information systems (GIS), enabling them for self-improvement and encouraging them to further in-depth study on advanced courses.

Learning outcomes

Students will be able to enter and edit data in GIS, effectively find the required data, create digital maps and use GPS.

Syllabus

Theoretical instruction

The main properties of the system: Information, Information Systems. Definition of geographic information systems: functional and conceptual property of GIS, technological characteristics of GIS. Component of geographic information systems: GIS hardware, software architecture, humanware. The emergence and development of GIS: Phases of scientific and technological development of GIS; Expansion and commercialization of GIS. The structure of spatial data and models: Basic features, thematic characteristics of the data, geographic data types (raster data, vector data, alphanumeric data, digital elevation model), data collection and input data (data sources in GIS, data quality and finding errors). Fundamentals of remote sensing, global positioning system. Data modelling (conceptual, logical and physical modelling). Fundamentals of geographic databases. Methods of searching and processing data using GIS. Graphic presentation. Analysis of spatial data. Basics of Web GIS.

Practical instruction

Digitization, data entry, mapping and graphic presentation of data in a GIS. Finding data sources on the Internet. Use of GPS receivers.

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