

Study Programme :BSc in Ecology				
Level: bachelor				
Course title: Basics of GIS				
Status: elective				
ECTS: 6				
Requirements: -				
Learning objectives The subject aims to provide students with basic knowledge about geographic information systems (GIS), to enable them for self-improvement and make them interested in in-depth study at advanced courses.				
Learning outcomes Students will be able to enter and edit data in a GIS, effectively find the required data, to create digital maps and to use GPS.				
Syllabus <i>Theoretical instruction</i> 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; The 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 modeling (conceptual, logical and physical modeling). Fundamentals of geographic databases. Methods of searching and processing data using GIS. Graphical representation. Analysis of spatial data. Basics of Web GIS. <i>Practical instruction</i> Digitization, data entry, mapping and graphical representation of data in a GIS. Finding data sources on the Internet. The use of GPS receivers.				
Weekly teaching load				Other:-
Lectures: 2	Exercises: 2	Other forms of teaching:-	Student research:-	