Level: master

Course title: Methods for the analysis of geographic data

Status: elective

ECTS: 7

Requirements: none

Learning objectives

Data analysis is one of the most important functions of GIS, distinguishing it from other information systems. The analysis of spatial relationships (topology), distance, and spatial variation of occurrence obtained information about objects and processes in the geosphere and the causal relationships between them. The goal of this course is to introduce students to the available methods of spatial analysis that can be applied in research and problem situations related to geographic phenomena in the field.

Learning outcomes

Knowledge of principles, importance and possibilities of analysis of spatial data. Training to perform spatial analysis using modern methods. Acquiring knowledge applicable in a broad range of activities related to spatial phenomena and processes.

Syllabus

Theoretical instruction

History and significance of the geographic data;
Statistical methods in spatial analysis and geostatistics;
The survey data;
Data classification;
Analysis of cluster;
Methods of detection anomalies array data;
Analysis within GIS (vector and raster data models, attributes and queries in data analysis, etc.).

Practical instruction

Examples of analyzing different types of data within GIS (vector and raster data models, queries, etc.).
Solving tasks using statistical and geostatistical methods;
The analysis of geographical data in climatology, hydrology, geology, geomorphology, pedology, biogeography and environmental sciences;
The analysis of geographic data in demographics, health, urban management systems;
Using different statistical software packages (Excel, SPSS and Statistica).

Weekly teaching load 4 (60)				Other:
Lectures: 2	Exercises: 2	Other forms of teaching:	Student research:	