

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚGE/ GIS/15	Course name: Geographic Information Systems
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 2 Per study period: 28 / 28 Course method:	
Number of ECTS credits: 6	
Recommended semester/trimester of the course: I. (Bachelor)	
Course level:	
Prerequisites:	
Conditions for course completion: The assessment is a combination of continual control during the practicals and the final exam in the examination period. The continual assessment is performed during the semester and it involves 2 written tests in the mid-term and end of the semester and a project report generated according to the assignment and practical skills acquired during the practicals. The student can proceed to the final exam in case he or she acquired at least 50 points of 100 in all elements of the continual assessment. The final assessment mark is based on the average number points received in the mid-term test, project report, practicals assessment, and final exam. The final exam is a written test comprising 3-4 questions. The credits are given in case the student had reached at least the E mark in continual assessment and final exam. The following marking scheme is applied in the assessment: A (100-90 points), B (80-89 points), C (70-79 points), D (60-69 points), E (50-59 points), FX (0-49 points).	
Learning outcomes: The students gain knowledge on the intermediate level in the theory of geoinformation science, GIS, and Remote Sensing, GIS data models, methods of data processing and spatial analysis. They gain practical skills in processing of geographic data, management, analysis, and visualisation of the geographic data in a GIS project. Students acquire competence in defining a GIS project, suitable data models, methods of data acquisition, data processing, analysis and visualisation, presentation skills and skills in team work.	
Brief outline of the course: The course is focused on the following topics: geoinformatics as a scientific discipline, components of geographic information system, digital landscape representation and data models, GIS standards for coordinate systems and transformations, collection of geographic data for GIS (GNSS, photogrammetry, multispectral satellite imagery, lidar, radar), data management in GIS, attribute and spatial demands, layer overlap, map algebra, spatial prediction, quality and uncertainty of geographic data, GIS web solutions, legislative aspects in GIS, GIS applications in practice. Exercises are focused on working in ArcGIS Pro: basic and advanced vectorization, data organization in the geodatabase, import / export of various data formats to GIS, creation of color compositions from satellite images, mapping, 3D visualization and animation of geographic data, geoprocessing, map algebra, spatial and attribute demands, spatial prediction, analysis of digital	

elevation models (DEM). Students learn the topics of the semester project in the middle of the semester and solve the assigned task in the team using the skills and knowledge acquired during the semester.

Recommended literature:

Course language:

Slovak or Czech or English

Notes:

Course assessment

Total number of assessed students: 383

Course assessment is visible only in case of include the course to some study plan.

Provides: doc. Mgr. Michal Gallay, PhD., Mgr. Michaela Nováková

Date of last modification: 27.06.2022

Approved: