

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚGE/ MZGD/21	Course name: Geospatial data collection methods
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 evaluation is based on a combination of continuous control at the lecture, submitted protocols from field measurements at the exercises and the final exam. Lectures are realized in the form of regular teaching, where students get acquainted with theoretical-methodological and mathematical aspects of selected methods for the collection of geospatial data. Continuous assessment at the lecture with a weight of 10% is focused on the student's readiness to argue professionally and explain the principles of operation of the explained methods, as well as to formulate questions and answers. Exercises are carried out in a combined form of regular and block teaching at a mutually agreed date. The validity of block teaching is related to the implementation of field exercises, as field measurements require a longer time to deploy the measurement technique and the actual implementation of the measurement. Data processing from field measurements will be realized at the following exercise. The result of field measurements is a protocol from field measurements. Protocols from field measurements represent a weight of 40% in the final evaluation. A student who has obtained an evaluation at least at the level of grade E and submitted all required protocols from field measurements, from which he / she obtained an evaluation at least at the level of grade E, can apply for the exam. and tests (50%). The exam takes the form of a test and an oral exam that demonstrates his expertise. Credits will only be awarded to a student who achieves a grade of at least E in each part of the assessment. Assessment scale: A (100-91%), B (81-90%), C (71-80%), D (61- 70%), E (51-60%).	
Learning outcomes: Knowledge: The student will gain knowledge of the basic principles of ground geodetic measurements and digital processing of geodata in order to create topographic maps. Gains an overview of methods for measuring lengths, angles and heights in the field, determining the relative position of points on the calculation and display area and placement in coordinate systems. They will get acquainted with the possibilities of determining areas and volumes and plotting the measured data using a geographic information system. Skills: The student will learn to obtain geospatial data using ground measurements, can locate them in different coordinate systems and represent them using GIS. Can evaluate the quality of data and determine the optimal procedure for the collection and primary processing of geospatial data. Competences: The student is able to analyze with a high degree of independence the possibilities for the collection and processing of geospatial data and to propose a procedure for obtaining location	

information about landscape objects. He will get acquainted with basic professional terminology in the field of geodesy, which will enable him to communicate and collaborate with other experts in the field of geospatial data collection and processing.

Brief outline of the course:

Lectures: Units of measure - length measures, angular measures; Coordinate systems; Angle measurement; Length measurement; Position of points; Height measurement; Map materials for field measurements; Detailed measurement methods; Field measurement documentation; Determination of areas and volumes.

Exercises: Aids for measuring vertical and horizontal direction, geodetic instruments and their description, preparation for measurement, methods for measuring horizontal and vertical angles, measurement with magnetic instruments; Direct length measurement, electronic rangefinders; trigonometric methods of determining the position of points, determining the coordinates of points by polygons; leveling devices and aids, geometric leveling, trigonometric cant measurement; selected elements and methods of positional and height delineation

Recommended literature:

HOFIERKA, J., KAŇUK, J., GALLAY, M., 2014. Geoinformatika. Univerzita Pavla Jozefa Šafárika v Košiciach, 192 s.

BITTERER, L., 2003. Geodézia. Žilinská univerzita v Žiline, Stavebná fakulta, 359 s.

KOPÁČIK, A. et al. (2016). Geodézia v priemysle. Slovenská technická univerzita v Bratislave, 207 s.

Course language:

Notes:

Course assessment

Total number of assessed students: 9

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

Provides: doc. RNDr. Ján Kaňuk, PhD.

Date of last modification: 23.11.2021

Approved: