Course Unit Descriptor

Study Programme: Precision agriculture

Course Unit Title: Geographic Information Systems Applications in Agriculture

Course Unit Code: 19.PRP029

Name of Lecturer(s): Prof. Pavel Benka, PhD; Assoc. Prof. Atila Bezdan, PhD

Type and Level of Studies: Graduated-Master

Course Status (compulsory/elective): Elective

Semester (winter/summer): 1 (winter)

Language of instruction: English

Mode of course unit delivery (face-to-face/distance learning): face-to-face

Number of ECTS Allocated: 6

Prerequisites: None

Course Aims:

Introducing students to modern approaches in the applications of Geographic Information Systems (GIS) in agriculture.

Learning Outcomes:

Students ability to apply the acquired knowledge in the further process of education as well as in future professional work and engineering problem solving.

Syllabus:

Theory

Introduction, spatial data type and sources, creation of GIS data models, attribute data and databases in GIS, connecting the databases with an external database. Spatial interpolation methods. Spatial analysis using GIS. Creation of cartographic view. Distribution of spatial data over the Internet.

Practice

Elaborate preparation – seminar paper that includes the creation GIS data model, collection of vector and raster data, connection of spatial data with database, spatial analysis and creation of a cartographic view.

Required Reading:

Benka P., Bezdan A.: GIS practicum, University of Novi Sad, Faculty of Agriculture, Novi Sad, 2016.

Burrough P., McDonnell R.: Principles of Geographic Information Systems, University of Belgrade, Faculty of Civil Engineering, Belgrade, 2006.

Jovanović V., Đurđev B., Srdić Z., Stankov U.: Geographic Information Systems, University Singidunum and University of Novi Sad, Belgrade, 2012.

Longley P., Goodchild M., Maguire D., Rhind D.: Geographic Information Systems and Science, John Wiley and Sons, LTD. 2002.

Manuals for GIS applications.

Weekly Contact Hours: 60	**Lectures: 30**	**Practical work: 30**

Teaching Methods:

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	**Final exam**	points
Active class participation	5	written exam	15
Practical work		oral exam	30
Preliminary exam(s)		…….	
Seminar(s)	50		

The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.