Course Unit Descriptor

Study Programme: Agronomy	
Course Unit Title: Information technologies in landscape ecology	
Course Unit Code: 19.AGR067	
Name of Lecturer(s): Milena Lakićević	
Type and Level of Studies: Ph.D. studies	
Course Status (compulsory/elective): elective	
Semester (winter/summer): winter	
Language of instruction: Serbian/English	
Mode of course unit delivery (face-to-face/distance learning): face-to-face	
Number of ECTS Allocated: 7	
Prerequisites: none	

Course Aims: Acquisition of necessary knowledge and skills for solving practical problems in the field of landscape ecology in the program R. Working on the practical examples related to numerical and statistical analysis and mapping.

Learning Outcomes:
Students will be trained to work in a contemporary computer program, for the purpose of making maps and performing calculations and diverse types of spatial analysis.

Syllabus:

Theory

An introduction to landscape ecology. Basic terminology. Defining problems. Information technology in ecology. Program R - an overview of the basic features and examples of application. Basic data types and operations in R.

Practice

The basics of working in R. Working with tables. Creating histograms and other graphical representations. Basics of statistical data processing. Graphical representation of the results of a statistical analysis. Creating maps. Basics of mapping on different spatial scales. Connect to other map creation programs (QGIS). Practical classes are conducted in the computer room and involve active work on selected problems in the R program. In addition to that, students will receive assignments for additional homework.

Required Reading:
Borcard, D., Gillet, F., Legendre, F. (2011): Numerical Ecology with R. Springer.
Lakicevic, M., Povak, N., Reynolds, K.M. (2020): Introduction to R for Terrestrial Ecology. Springer Nature

Weekly Contact Hours:	**Lectures:** 60	**Practical work:** 90

Teaching Methods: lectures and practical computer work.

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	Final exam	points
Active class participation	10	written exam	30
Practical work	10	oral exam	30
Preliminary exam(s)	10	…….	
Seminar(s)	10		

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