

Course Unit Descriptor

Study Programme: Climate-smart agriculture			
Course Unit Title: Soils and their management for Climate-smart agriculture			
Course Unit Code: 19.ZB9011			
Name of Lecturer(s): Full Professor Maja Manojlović			
Type and Level of Studies: Master Academic Degree			
Course Status (compulsory/elective): Elective			
Semester (winter/summer): Winter			
Language of instruction: English			
Mode of course unit delivery (face-to-face/distance learning): Face-to-face			
Number of ECTS Allocated: 5			
Prerequisites: None			
Course Aims: The objective of the course is to introduce students to the basic measures of land management for agriculture adapted to climate change.			
Learning Outcomes: Acquiring knowledge about the close relationship of soil, climate change and agricultural production (productivity) and understanding of the processes and factors that influence the reserves of organic matter (carbon) in the soil and getting acquainted with soil management measures in order to adapt agriculture to climate change.			
Syllabus: <i>Theory</i> Land and climate change. Soil quality indicators. Land degradation and greenhouse gas emissions (GHG). Measures to reduce the GHG emissions and adaptation to climate change. Mulching the soil / crop residues. Conservation and reduced tillage. Application of organic fertilizers and increase of reserves of organic matter (carbon) in soil. Fertilization and increased efficiency of nitrogen use. Organic farming. Prevention of erosion and storage of soil moisture. Land use change. Maintenance of permanent pastures, afforestation. Reclamation of degraded land. Legislation. <i>Practice</i> Methods for determining the content of organic carbon and organic matter in soil. Calculation of organic carbon reserves in soil in different production systems.			
Required Reading: 1. Čustović et all. Adaptation to climate change in agriculture. Edittors H. „Čustović, M. Ljuša, B. K. Sitaula. Sarajevo: Faculty of Agricultural and Food Sciences, 2016 2. Singh BP, Cowie AL, Chan KY eds. 2011. Soil health and climate change (Vol29). Springer Science & Business Media. 3. Manojlović, M., Aćin, V., Šeremešić, S., 2008. Long-term effects of agronomic practices on the soil organic carbon sequestration in Chernozem. Archives of Agronomy and Soil Science, 54(4), pp.353-367.			
Weekly Contact Hours:	Lectures: 3	Practical work: 2	
Teaching Methods: Lectures and students group work			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Active class participation	5	written exam	
Practical work	10	oral exam	60
Preliminary exam(s)		
Seminar(s)	25		