

Study Programme: Agronomy		
Course Unit Title: The Use of Forest Tree Plantations in Environmental Protection		
Course Unit Code: 19.AGR131		
Name of Lecturer(s): Andrej Pilipović		
Type and Level of Studies: PhD		
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: N/A		
Course Aims: Improvement of knowledge about theoretical, scientific and aspects of use of forest tree species in environmental protection		
Learning Outcomes: After the course, students will be able to apply forest tree species for environmental protection in in the scope of achieving sustainable development.		
Syllabus: <i>Theory</i> Contamination of the environment with different contaminants. Phytoremediation and application of forest tree species in different phytoremediation systems and mechanisms. Selection of tree species and plantation type for phytoremediation. Establishment of phytoremediation plantations. Management of phytoremediation plantations and contaminant control. Use of trees in air quality improvement. Noise reduction, Air contamination reduction. water and carbon cycling in ecosystems. Eddy covariance, carbon dioxide assimilation, soil respiration, net assimilation and heat flux in plantation of forest tree species. Erosion control. Eolic erosion protection. Bank stabilization and soil erosion control. Prevention of salinization and desertification. Recultivation of landfills and mine tailings. Wastewater treatment with forest trees. <i>Practice</i> Development of the project plan for the environmental improvement.		
Required Reading: Introduction to Phytoremediation. U.S. Environmental Protection Agency, National Risk Management Research Laboratory Office of Research and DevelopmentCincinnati, Ohio 45268. February 2000. Phytoremediation Resource Guide. U.S. Environmental Protection Agency, June 1999 Teski metali u zivotnoj sredini, Kastori, R. (ed). Naucni Institut za ratarstvo i povrtarstvo, Novi Sad, str. 195-247. A Brief Practical Guide to Eddy Covariance Flux Measurements: Principles and Workflow Examples for Scientific and Industrial Applications. G. Burba and D. Anderson. LI-COR Biosciences, 2010		
Weekly Contact Hours:	Lectures:4	Practical work:4
Teaching Methods:		
Knowledge Assessment (maximum of 100 points):		

Pre-exam obligations	points	Final exam	points
Active class participation	10	written exam	
Practical work		oral exam	40
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.