

Study Programme: FRUIT SCIENCE, VITICULTURE AND HORTICULTURE			
Course Unit Title: FERTILIZER APPLICATION IN PERENNIAL PLANTATIONS			
Course Unit Code: 19.VIV010			
Name of Lecturer(s): Ranko Čabilovski			
Type and Level of Studies: Undergraduate academic studies			
Course Status (compulsory/elective): elective			
Semester (winter/summer): summer			
Language of instruction: ENG			
Mode of course unit delivery (face-to-face/distance learning): face to face			
Number of ECTS Allocated: 6			
Prerequisites:			
Course Aims: The course should enable students to acquire knowledge about the impact of fertilization on the yield and yield quality of certain types of fruits and horticultural plants, nutrient disorders of these crops, visual symptoms of deficiency, physiological aspects of nutrition, leaf diagnostics, fertilizer application and soil fertility in different production systems			
Learning Outcomes: Ability to independently determine the required amounts of nutrients / fertilizers for fruit and horticultural plants, taking into account their specifics and characteristics of fertilizers, soil properties, product quality and selected production model.			
Syllabus: <i>Theory</i> Soil fertility control system. Assessment of land suitability for growing perennial crops. Agrochemical soil preparation for planting. Principles of fertilizer application in perennials. Fertilizer application before planting - ameliorative fertilization. Regular fertilization of plantations (time, manner and doses of fertilizer application). Foliar application of fertilizers. Fertilization application by fertigation. Mixing of liquid fertilizers and pesticides-compatibility. Fertilization according to the principles of precision agriculture. Influence of fertilization on fruit quality. Assessment of plant nutrient status based on foliar analysis and visual diagnostics. <i>Practice</i> Determining the need for soil fertilization before planting. Principles for determining fertilizer doses in different production systems. Sampling of plant material in order to determine the supply of plants with nutrients. Agrochemical project - preparation of land for raising orchards and horticultural plantations. Presentation of seminar papers. Field exercises.			
Required Reading: D. Atkinson, J.E. Jackson, W.M. Waller (1980): Mineral Nutrition of Fruit Trees. Elsevier Ltd Havlin J.L. (2005) Soil fertility and fertilizers, Pearson education, Inc. Upper Saddle River, New Jersey 07458			
Weekly Contact Hours:	Lectures: 2	Practical work: 2	
Teaching Methods: Lectures and laboratory work			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Active class participation	10	written exam	
Practical work		oral exam	60
Preliminary exam(s)	30	
Seminar(s)			

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