

Study Programme: Fruit growing and viticulture		
Course Unit Title: Principles and methods of fruit breeding		
Course Unit Code: 19.VI1031		
Name of Lecturer(s): Goran Barać		
Type and Level of Studies: Master academic studies fruit growing and viticulture		
Course Status (compulsory/elective): compulsory		
Semester (winter/summer): winter		
Language of instruction: Serbian		
Mode of course unit delivery (face-to-face/distance learning): face-to-face		
Number of ECTS Allocated: 6		
Prerequisites: none		
Course Aims: The aim of the course is to present breeding of varieties and rootstocks of pome, stone, nutty and berry fruit species from a multidisciplinary aspect.		
Learning Outcomes: By passing the exam in this course, the student should learn the complexity of fruit breeding goals, which is achieved through specialization and interaction of complementary scientific fields such as genetics, phytopathology, entomology, physiology, ecology, molecular biology, fruit quality, and sensory evaluation.		
Syllabus: <i>Theory</i> Theoretical assumptions for making models of varieties and rootstocks of pome, stone, nutty and berry fruit species. The model of the variety or rootstock will be determined in relation to the species and the desired phenotype that is the result of the realization of the genotype in certain environmental conditions. Defining the genetic basis of a phenotype based on the concept of traits and the concept of genes. Selection of pre-selection methods that enable the most efficient and fastest separation of superior offspring. Defining the place of the ideotype in the context of the interaction of the cultivar/rootstock, in relation to the requirements of intensive fruit growing, but also decorative forms as a function of plant architecture and traditional gardening skills <i>Practice</i> Students will select a specific fruit species and development of a variety or rootstock model. Selection of starting material to create the desired genetic variability. Selection of methods that enable obtaining the desired genetic variability. Selection of standard varieties. Performing field experiments. Statistical data processing. Testing of cultivar models in vivo and through a simulation model as a variety / rootstock interaction.		
Required Reading: Mišić P. Specijalno oplemenjivanje voćaka. Nolit, Pantenon, Institut za istraživanja u poljoprivredi Srbija, 2002 Borojević S. Principi i metodi oplemenjivanja bilja. Ćirpanov, Faculty of Agriculture, Novi Sad, 1981		
Weekly Contact Hours:	Lectures:3	Practical work:2
Teaching Methods: Lectures and Practical classes, Consultations if needed.		
Knowledge Assessment (maximum of 100 points):		

Pre-exam obligations	points	Final exam	points
Active class participation	10	written exam	20
Practical work	10	oral exam	40
Preliminary exam(s)		
Seminar(s)	20		

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