

Study Programme: Fruit growing, Viticulture and Horticulture – module Ornamental Horticulture			
Course Unit Title: Tissue Culture in Horticulture			
Course Unit Code: 19.VI2015			
Name of Lecturer(s): Sandra M. Bijelić			
Type and Level of Studies: Undergraduate academic studies			
Course Status (compulsory/elective): Elective			
Semester (winter/summer): Summer			
Language of instruction: English			
Mode of course unit delivery (face-to-face/distance learning): Face-to-face			
Number of ECTS Allocated: 6			
Prerequisites: Plant physiology			
Course Aims: Acquiring knowledge about the use of non-conventional methods for breeding and propagation of horticultural plants.			
Learning Outcomes: Students should be enabled to use their knowledge for the improvement of modern production of planting material.			
Syllabus: <i>Theory</i> The significance of tissue culture for breeding and propagation of horticultural plants (fruit trees, grapevine and decorative species). Laboratory equipment. Preparation, contents, and selection of a nutrient medium. Cell culture and callus. Somatic embryogenesis and organogenesis. Micro-propagation. Anther and ovary culture. Zygotic embryo culture. <i>Practice</i> Method for preparing a nutrient medium for micro-propagation, somatic embryogenesis and organogenesis. Sterilization of plant material. Method for isolation of meristems, shoot tip, and other starting explants for vegetative propagation methods in <i>in vitro</i> culture. Monitoring the growth of plant material and preparing nutrient mediums for particular phases of growth and development in culture.			
Required Reading: 1. Dozet, B. i sar. Kultura tkiva u poljoprivredi, Štamparija FELJTON, Novi Sad 1995 2. Nešković Mirjana, Konjević R., Čulafić Ljubinka, Fiziologija biljka, NIN-Internacional, Beograd 2010 3. Taji, Acram, Kumar, P.P, Lakshmanan, P. In Vitro Plant Breeding Food Products Press, An Imprint of The Haworth Press, INC. New York.London.Oxford 2001 4. Kastori R. Fiziologija biljaka, Štamparija FELJTON, Novi Sad 1998 5. Radojević, Lj.: Biotehnologija u hortikulturi - Drveće I. IBISS, Univerzitet u Beogradu i AGM Knjiga Beograd, 2016.			
Weekly Contact Hours:	Lectures: 2	Practical work: 2	
Teaching Methods: Teaching is conducted with the use of modern techniques. Theoretical classes are conducted in faculty classrooms. All lectures are computerized and presented. Practical classes are conducted in a laboratory for tissue culture and at the experimental field of the Faculty of Agriculture in Rimski Šancevi.			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Active class participation	10	written exam	
Practical work	10	oral exam	30
Preliminary exam(s)	20	
Seminar(s)	30		
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			