

Course Unit Descriptor

<b>Study Programme:</b> Fruit science, viticulture and horticulture
<b>Course Unit Title:</b> Irrigation
<b>Course Unit Code:</b> 19.VIV003
<b>Name of Lecturer(s):</b> Borivoj Pejić, full professor; Ksenija Mačkić, associate professor
<b>Type and Level of Studies:</b> undergraduate academic studies
<b>Course Status (compulsory/elective):</b> compulsory
<b>Semester (winter/summer):</b> summer
<b>Language of instruction:</b> English
<b>Mode of course unit delivery (face-to-face/distance learning):</b> face-to-face
<b>Number of ECTS Allocated:</b> 5
<b>Prerequisites:</b> none
<b>Course Aims:</b> Introducing students to the basic principles (agronomic aspects) of the application of irrigation in orchards and vineyards, in production under irrigation of vegetables, lawns, flowers, and ornamental plants, without negative consequences on the environment.
<b>Learning Outcomes:</b> Forming of academic experts for successful work in fruit and grape production, as well as in vegetable, flower, and ornamental plant production in irrigated conditions.
<b>Syllabus:</b> <i>Theory</i> Introduction, history of irrigation. Problems that follow irrigation. Principles of rational irrigation. Factors that condition irrigation. Crop water requirements. Water balance and irrigation water requirements. Assessing the quality of water for irrigation. Soil and water. Water availability for plants, irrigation rate, and drought. Agronomic evaluation of irrigation methods. Irrigation scheduling. Irrigation in orchards and vineyards. Irrigation of specific agricultural crops: vegetables, lawns, flowers, and ornamental plants. Irrigations in greenhouses. Irrigation in frost protection and cooling watering. Exploitation elements of irrigated fields.  <i>Practice</i> Soil sampling. Methods for soil moisture assessment. Determination of soil water constants. Determination of water and physical properties of the soil. Calculation of the amount of water in soil and irrigation rate. Construction of soil moisture characteristics curve - pF. Calculation of soil water balance and irrigation requirements. Determination of the irrigation schedule based on an everyday calculation of water consumption through plants' evapotranspiration.
<b>Required Reading:</b> 1. Stewart, B.A. and Nielsen, D.R. (Eds.) (1990). Irrigation of Agricultural Crops. American Society of Agronomy, Crop Science Society of America, Soil Science Society of America, Madison, Wisconsin, USA. 2. Lascano, R.J and Sojka, R.E. (Eds.) (2007). Irrigation of Agricultural Crops, Second edition. American Society of Agronomy, Crop Science Society of America, Soil Science Society of America, Madison, Wisconsin, USA

<b>Weekly Contact Hours:</b>	<b>Lectures: 2</b>	<b>Practical work: 2</b>	
<b>Teaching Methods:</b> Lectures, practical classes, consultations, research work			
<b>Knowledge Assessment (maximum of 100 points):</b>			
<b>Pre-exam obligations</b>	points	<b>Final exam</b>	points
Test	10	oral exam	60
Practical exam	30		