

Study Programme: Agricultural engineering and information systems
Course Unit Title: Mechanization of orchard, vineyard phytomedicine and water management
Course Unit Code: 19.PTI016
Name of Lecturer(s): Aleksandar D. Sedlar, PhD, Full Professor
Type and Level of Studies: Bachelor degree
Course Status (compulsory/elective): compulsory
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: No
Course Aims: Acquisition of theoretical and practical knowledge related to the application of machines in orchard plantations of phytomedicine and water management.
Learning Outcomes: The knowledge gained within the course should enable the correct selection, adjustment, use and maintenance of machines, with an emphasis on the impact of mechanization on environmental protection and the production of healthy and safe food.
<p>Syllabus:</p> <p><i>Theory</i></p> <p>Lecture content: Tractors in perennial crops and plant protection. Machines for soil systematization. Machines for mass earthworks. Machines for digging and maintenance of melioration canals. Importance of machines and mechanized works in water management. Categorization of canals in water management. Analysis of possible system solutions for channel cleaning machines. Removal of woody and shrubby vegetation. Mowing canal surfaces. Application of floating machinery for canal maintenance and dredging. Machines for the construction of pipe and mole drainage. Soil plowing machines. Planting machines and devices. Machines for basic and supplementary soil treatment of perennial crops. Machines for plant protection: Sprayers, sprayers with air support, orchard sprayers, orchard sprayers with recirculation, foggers, dusters. Machines and devices for mechanical plant care. Machines and devices for harvesting, transporting and packing fruit. Machines and devices for harvesting, transport of grapes</p> <p><i>Practice</i></p> <p>Working parts, assemblies, working principle of certain types of machines and their characteristics will be covered within the mentioned groups of machines. Setup, use and maintenance of machines with a practical display in operation. Traction resistances and power for propulsion - traction, creation of tasks for certain types of machines. Visit to work organizations and the Agricultural Fair in Novi Sad with a display of newer types of machines.</p>
<p>Required Reading:</p> <p>Brčić J.: Mehanizacija u voćarstvu i vinogradarstvu, Zagreb 1995 Bugarin, R. Bošnjaković, A.Sedlar, A.: Mašine u voćarstvu i vinogradarstvu, Poljoprivredni fakultet, Novi Sad, 2015,</p> <p>Vojvodić M. i saradnici : Poljoprivredne mašine, Novi Sad 1998</p> <p>Grupa autora ... Bugarin, R., A.Sedlar, A...: Fitomedicina, Univerzitet u Novom Sadu, Segedinski Univerzitet,</p>

Poljoprivredni fakultet, 2012. Novi Sad.

Urošević M, Živković M.: Mehanizacija voćarsko - vinogradarske proizvodnje, Poljoprivredni fakultet Beograd, 2009.

Weekly Contact Hours: 7

Lectures: 4

Practical work: 3

Teaching Methods:

Theoretical teaching: verbal-textual and demonstrative illustrative methods. Practical teaching: management of students' independent work, demonstrative and illustrative methods, display of machines in operation, computational methods.

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	Final exam	points
Active class participation	5	written exam	
Practical work	5	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.