

Study Programme: Fruit science, viticulture and horticulture		
Course Unit Title: Machines for orchard, vineyard and horticulture		
Course Unit Code: 19.VIV006		
Name of Lecturer(s): Full professor Aleksandar Sedlar		
Type and Level of Studies: Undergraduate academic studies		
Course Status (compulsory/elective): compulsory		
Semester (winter/summer): winter		
Language of instruction: english		
Mode of course unit delivery (face-to-face/distance learning): face to face		
Number of ECTS Allocated: 5		
Prerequisites: no		
Course Aims:		
<p>The aim of the course is to familiarize students with machines, equipment and devices used in fruit growing, viticulture and ornamental horticulture. Through lectures and exercises, students will master the techniques of correct and optimal selection, adjustment, maintenance and application of machines used in fruit and vegetable production, as well as in ornamental horticulture</p>		
Learning Outcomes:		
<p>Students will be trained in the correct selection and application of machines, equipment and devices in fruit growing, viticulture and ornamental horticulture, all with the aim of increasing the efficiency and economy of production while respecting the principles of operator safety and environmental protection.</p>		
Syllabus:		
<i>Theory</i>		
<p>The importance of mechanized work processes in fruit growing, viticulture and ornamental horticulture. Development of machines for fruit growing, viticulture and ornamental horticulture. Tractors and their application; Machines for land systematization and clearing; Machines for soil cultivation; Machines for digging holes and planting; Machines for fertilizing perennial crops; Pesticide application technique; Anti-hail and frost protection; Pruning machines; Harvesting machines; Classification and calibration of fruits; Equipment in winemaking and cellaring</p>		
<i>Practice</i>		
<p>Introduction with the purpose, basic parts, principle of operation, settings, maintenance during exploitation and safety measures for the operation of machines and equipment according to the teaching program. Creating tasks and demonstrating the operation of machines and equipment</p>		
Required Reading:		
<p>Bugarin R, Bošnjaković A, Sedlar A. 2015. Mašine u voćarstvu i vinogradarstvu, Univerzitet u Novom Sadu – Poljoprivredni fakultet, s. 344, ISBN 978 -86-7520-329-5. Burg P, Zemanek P. 2014. Stroje a zarizeni pri vinarstvu, Agriprint, s. 253, ISBN 978-80-87091.</p> <p>Zemanek P, Burg P. 2010. Vinogradnicka mechanizace, Mendelove Univerzite v Brno, Zahradnicke fakulte v Lednici, s. 200, ISBN 978-80-87091-14-2.</p>		
Weekly Contact Hours:	Lectures:3	Practical work:2
Teaching Methods:		
<p>Oral lectures, practical work with machines, Power Point presentations, tests in orchards and vineyards, written</p>		
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.