

DESCRIPTION OF A STUDY COURSE – SYLLABUS

Title of a course	Mechanisation in wine growing and wine making				
Head of course	PhD Mario Staver, College Professor				
Study programme	Professional undergraduate study Winemaking				
Status of a course	Obligatory				
Year of study	1.	Semester	II	ECTS credits	5
Teaching plan (L + E + S+ Pr)	2 + 2 + 0 + 1				
Goals of a course					
By successfully completing the course, students are familiar with the machines and appliances used in viticulture and winemaking, can identify most parts, distinguish good from bad work, and can make basic adjustments to improve the quality of the machine, soil, plant, armature, final product in the winery. They are oriented towards rationalization and efficiency of agrotechnical measures as well as the use of equipment in winemaking to achieve the expected quality of products.					
Conditions for enrolling course					
No conditions					
Learning outcomes on a level of a study programme which includes course					
Outcome 1: Plan the planting of vineyards with regard to the ecological and agro-climate conditions of the production unit. Outcome 3: Perform the care of the grapevine plantations in accordance with the cultivation form and maintain the vineyard in view of the technological and ecological conditions of production Outcome 4: Determine the economically significant grapevine pests and implement preventative and curative methods of plant protection. Outcome 8: Apply the appropriate vinification technology for white, rose and red wine with monitoring and determining technological processes, and carry out physic-chemical and biological stabilization of wine. Outcome 9: Finalize the wine by selecting the appropriate equipment and packaging and bottling the wine. Outcome 10: Apply basic technologies in the production of sparkling wine, liqueur wine and dessert wine by selecting the appropriate equipment and packaging for the production, processing and finalization of these wines.					
Expected learning outcomes on a level of a course					
1. Select machines and equipment for soil preparation and vineyard planting. 2. Describe basic tractor parts and recommend tractor models for viticulture production. 3. Describe soil tillage machines, basic and supplementary fertilization and protection of vineyards. 4. Describe the machinery and equipment for harvesting and transporting grapes to the cellar. 5. Select machines and equipment for grape processing, production, processing and finishing of wine					
Content of a course					
Internal-combustion engines: types, operation principle, ways of using them. Fuels and lubricants. Main parts of tractor. Models of tractors in vine growing and wine making. Machines and devices for arranging grounds, preparing planting and vine planting. Equipment for production of vine planting material. Machines for tillage, basic and additional fertilisation in vineyards and orchards. Methods, machines and devices for applying pesticides in vineyards and orchards. Methods and systems for irrigation in vine growing and fruit growing. Machines and equipment for picking and transporting grapes to cellars. Maintaining agricultural machines and devices. Organisation of wine cellar. Accepting grapes and controlling their quality. Machines and equipment for grape processing: line for processing white varieties; line for processing red varieties; Grape crushers; Drainers; Discontinuous and continuous presses; Pumps and systems for mass transfer; Devices for fermentation control. Machines and equipment for wine doctoring: Filters; Stabilizers; Lines for washing and filling bottles; Sterilisation systems, corking and labelling					
Teaching modes	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> auditory exercises		<input checked="" type="checkbox"/> individual assignments <input type="checkbox"/> multimedia and network		

	<input checked="" type="checkbox"/> seminars and workshops <input type="checkbox"/> distance learning <input type="checkbox"/> field classes	<input type="checkbox"/> laboratory <input type="checkbox"/> supervisor's work <input type="checkbox"/> other _____
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Comments	
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Students' obligations

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Grading, evaluation and monitoring of students' work continuously during lectures and exams
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Grading is based upon evaluation of course's learning outcomes' adoption. Grading is performed continuously during lectures and/or during exam, in compliance with the provisions of Regulation on the assessment of students.

Continuous check-up:

Outcomes	Pre-exam I	Seminar work	Practical implementation	Threshold	Max
Outcome 1	10	6		8	16
Outcome 2	10		6	8	16
Outcome 3	10	5		7,5	15
Outcome 4	20		4	12	24
Outcome 5	20	9		14,5	29
Percentage of ECTS	3,5	1,0	0,5	-	-
Total	70 %	20 %	10 %	50 %	100 %

A student has passed the exam if he has acquired a percentage of credits for each learning outcome higher or equal to defined threshold.

Exam term:

Outcomes	Written exam	Oral exam	Threshold	Max
Outcome 1	10		5	10
Outcome 2	10	10	10	20
Outcome 3	20		10	20
Outcome 4	20	15	17,5	35
Outcome 5	15		7,5	15
Percentage of ECTS	3,75	1,25	-	-
Total	75 %	25 %	50 %	100 %

A student has passed the exam if he has acquired a percentage of credits for each learning outcome higher or equal to defined threshold.

Grading:

A student has passed the exam if he has acquired at least 50% of anticipated credits of a specific learning outcome.

If a student has passed learning outcomes of all courses, the accomplished credits (percentages) of all passed learning outcomes are being added, while the final grade is defined upon following table:

Range of credits (percentages)	Numerical grade	ECTS grade
90,00 – 100,00	Excellent (5)	A
75,00 – 89,99	Very good(4)	B
60,00 – 74,99	Good(3)	C
50,00 – 59,99	Sufficient (2)	D
0,00 – 49,99	Insufficient (1)	F

Obligatory literature

1. Interna skripta sačinjena od prof. dr. Tomislav Jurić
2. Prof. dr. Josip Brčić; Mehanizacija u voćarstvu
3. Dr.sc. Mario Staver, Sanja Radeka, Vinarstvo 1, Vinarstvo 2.

Additional literature

1. Petar Lukač, Đuro Banaj, Dario Knežević, Domagoj Zimmer, Strojevi za sustematizaciju zemljišta, obradu i gnojidbu tla
2. Đuro Banaj, Vjekoslav Tadić, Željka Banaj, Petar Lukač, Unaprjeđenje tehnike aplikacije pesticida
3. D. Brkić, T. Jurić, M. Vujčić, L. Šumanovac, P. Lukač, D. Kiš, D. Knežević, Eksploatacija poljoprivrednih strojeva
4. Bojan Kraut, Strojarski priručnik
5. Osnove strojarstva, skripta, Sveučilište u Osijeku
6. V. Radovanović, Tehnologija vina (Srbija)
7. Prof. dr. Josip Barčić, Priručnik za rad prskalice i orošivači
8. Kuzman Ražnjević, Jedinice Međunarodnog sustava SI

