DESCRIPTION OF A STUDY COURSE – SYLLABUS

Title of a course	**Biometrics in viticulture and winemaking**				
Head of course	**PhD Slavica Dudaš, Senior Lecturer**				
Study programme	**Specialist Professional Study of Winemaking**				
Status of a course	Obligatory				
Year of study	1	**Semester**	I	**ECTS credits**	5
Teaching plan (L + E + S+ Pr)	2+1+0+0				

Goals of a course

Introduce students to the design and execution of experiments, plans and schemes of experiments (completely random layout, random block layout, Latin square, Latin rectangle), multifactorial experiments (two-factorial and three-factorial) experiments with split plots (Split-plot, Split-block and Split-split-plot). Present experiments repeated in time and space, define treatments, parameters, patterns and types of data, populations, frequency distributions, benchmarks that describe distribution. Introduce students to probability distribution and some more important theoretical distributions, by estimating population parameters over sample values, zero hypothesis and by testing the null hypothesis. Conduct variability analysis (F-distribution, F-test), variance analysis (ANOVA), regression and correlation, and graph data, standard deviation, and interpret analysis results data

Conditions for enrolling course

No conditions

Learning outcomes on a level of a study programme which includes course

Outcome: Analyze a group of factors that affect the quality of grapes and wine. Describe physiological processes throughout grape ripening, the impact of ampelo-technical interventions, nutrition / fertilization and drought / irrigation on nature and quality grapes (sugar, acids, pH, phenol and aromatic components) and use these measures in practical production

Expected learning outcomes on a level of a course

1. Define experiments, treatments, parameters, patterns and types of data, populations, frequency distributions, and measures that describe the distribution.
2. Assess population parameters on the basis of sample values, null hypothesis, and test the null hypothesis.
3. Conduct variability analysis (F–distribution, F-test), variance analysis (ANOVA), regression and correlation
4. Graphically display data, standard deviation and interpret data analysis results

Content of a course

Experiment planning and execution, experiment plans and schemes (completely random layout, random block layout, Latin square, Latin rectangle). Multifactorial experiments (two-factorial and three-factorial) experiments with split plots (Split-plot, Split-block and Split-split-plot). Experiments repeated in time and space. Defining treatments, parameters, patterns and data types. Populations, frequency distributions. Metrics describing distribution. Probability distribution and some more important theoretical distributions. Estimation of population parameters on the basis of sample values. Null hypothesis and null hypothesis testing. Variability analysis (F-distribution, F-test), variance analysis (ANOVA). Regression and correlation. Graphic presentation of data analysis' results.

Teaching modes	☒ lectures ☐ auditory exercises ☒ seminars and workshops ☐ distance learning ☐ field classes	☒ individual assignments ☐ multimedia and network ☐ laboratory ☐ supervisor's work ☐ other _____
Comments		

Students' obligations

Grading, evaluation and monitoring of students' work continuously during lectures and exams

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	Test	Home assignment	Threshold	Max
Outcome 1		25		12,5%	25%
Outcome 2	15			7,5%	15%
Outcome 3			40	20%	40%
Outcome 4			20	10%	20%
Percentage of ECTS	1	1,5	2,5		
Total	15%	25%	60%	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	Max
Outcome 1	12,5	12,5	25%
Outcome 2	15%	0	15%
Outcome 3	40%	0	40%
Outcome 4	20%	0	20%
Percentage of ECTS	4	1	
Total	65%	10%	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. Internal teaching materials

Additional literature

1. Đurđica Vasilj 2000.: Biometrika i eksperimentiranje u bilinogojstvu. Hrvatsko agronomsko društvo, Zagreb
2. Horvat, D. i Ivezić, M. 2005.: Biometrika u poljoprivredi. Poljoprivredni fakultet u Osijeku, Osijek