

### DESCRIPTION OF A STUDY COURSE – SYLLABUS

Title of a course	Mathematics and statistics				
Head of course	Assistant Professor, PhD Danijel Krizmanić				
Study programme	Professional undergraduate study Winemaking				
Status of a course	Obligatory				
Year of study	1.	Semester	I	ECTS credits	5
Teaching plan (L + E + S+ Pr)	2 + 2 + 0 + 0				
Goals of a course					
The aim of the course is to acquaint students with the basic concepts, results and methods of functions of a variable, descriptive statistics, economic and financial mathematics, and train them to apply them.					
Conditions for enrolling course					
No conditions					
Learning outcomes on a level of a study programme which includes course					
Outcome 6: Analyse the basic chemical composition of grape must and make corrections of crushed grapes, grape must and wine Outcome 8: Apply the appropriate vinification technology for white, rose and red wine with monitoring and determining technological processes, and carries out physic-chemical and biological stabilization of 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. Outcome 11: Present the wine professionally, using professional terminology in describing and evaluating the wine, and lead wine tasting by interpreting the sensory experiences of the wine.					
Expected learning outcomes on a level of a course					
1. Explain the basic concepts of single variable functions (definition, parity, oddity, periodicity, boundary value and continuity), and apply them in solving problems. 2. Calculate the derivations of elementary functions and apply them in the analysis of some economic problems. 3. Explain simple schemes and calculations with application in economy and finance, and solve related tasks (percentage calculation, rule of three, division, mixture calculation, compound calculation, and loans repayment). 4. Define the basic concepts of descriptive statistics and process a set of statistical data (frequency distribution, mean values, dispersion measures, and linear regression).					
Content of a course					
Functions: term and features, composition of function, inverse function, elementary functions and their graphs, marginal value and continuity of functions, asymptotes. Derivations: definition and geometrical meaning of derivation, rules of deriving, derivations of elementary functions, higher-order derivations, differential of function, L'Hospital's rule, extremes and inflection points, flow of function, economic application of derivation. Economic and financial maths: percentage and per mil calculi; rule of three, recursive calculus, division calculus, composition calculus, interest account, periodical sums, loan service. Descriptive statistics: distribution of frequencies, inductive and deductive methods, average values; dispersion measures, asymmetry and flatness. Correlation and regression: method of smallest squares, linear regression, linear correlation.					
Teaching modes	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> auditory exercises <input checked="" type="checkbox"/> seminars and workshops <input type="checkbox"/> distance learning <input type="checkbox"/> field classes		<input checked="" type="checkbox"/> individual assignments <input type="checkbox"/> multimedia and network <input type="checkbox"/> laboratory <input type="checkbox"/> supervisor's work <input type="checkbox"/> 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	Pre-exam 2	Test	Home assignment	Threshold	Max
Outcome 1	/	/	18 %	2 %	10 %	20 %
Outcome 2	/	/	8 %	2 %	5 %	10 %
Outcome 3	38 %	/	/	2 %	20 %	40 %
Outcome 4	/	28%	/	2 %	15 %	30 %
Percentage of ECTS	1.9	1.4	1.3	0.4	-	-
Total	38 %	28 %	26 %	8 %	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	20 %	5 %	12.5 %	25 %
Outcome 2	10 %	5 %	7.5 %	15 %
Outcome 3	30 %	5 %	17.5 %	35 %
Outcome 4	20 %	5 %	12.5 %	25 %
Percentage of ECTS	4	1	-	-
Total	80%	20%	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

- Ljubica Štambuk: Matematika sa statistikom, Veleučilište u Rijeci, Rijeka, 2006.
- Ljubica Štambuk, Zvonimir Peranić, Mirta Mataija: Matematika sa statistikom, Zbirka zadataka s riješenim primjerima, Veleučilište u Rijeci, Rijecka 2006.

<b>Additional literature</b>

