

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 Mediterranean Agriculture				
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 to train students to apply them.					
Conditions for enrolling course					
No conditions					
Learning outcomes on a level of a study programme which includes course					
<p>Outcome 3: Prepare a plan for the cultivation of Mediterranean crops, including economic and cultivation elements.</p> <p>Outcome 5: Design irrigation models based on water balance and apply classic and special irrigation models.</p> <p>Outcome 6: Determine economically significant pests and implement preventative and curative methods of plant protection with respect to the production system.</p> <p>Outcome 8: Conduct correction of crushed grapes, grape must and wine on the basis of chemical composition and apply new technologies in wine production, care, stabilization and finalization.</p>					
Expected learning outcomes on a level of a course					
<ol style="list-style-type: none"> 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, loans repayment) 4. Define the basic concepts of descriptive statistics and process a set of statistical data (frequency distribution, mean values, dispersion measures, linear regression). 					
Content of a course					
<p>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.</p> <p>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.</p> <p>Correlation and regression: method of smallest squares, linear regression, linear correlation.</p>					
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

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

Additional literature

