

DESCRIPTION OF A STUDY COURSE – SYLLABUS

Title of a course	Economic Mathematics				
Head of course	MSc Mirjana Rakamarić Grlica, Senior Lecturer				
Study programme	Professional undergraduate study Entrepreneurship				
Status of a course	Obligatory				
Year of study	1	Semester	I	ECTS credits	6
Teaching plan (L + E + S+ Pr)	3L+2E				
Goals of a course					
Introduce students to the basic concepts of mathematical logic and analysis: functions of one variable, linear algebra and financial mathematics and prepare them for their practical application. Students should develop logical thinking and analytical way of solving problems.					
Conditions for enrolling course					
No conditions					
Learning outcomes on a level of a study programme which includes course					
Outcome 1: Apply appropriate methods and procedures in preparing information for business decisions. Outcome 3: Identify and evaluate key performance indicators of companies for management and decision making. Outcome 5: Design and substantiate an entrepreneurial idea through a business plan. Outcome 6: Create a plan for purchasing, sales and marketing activities. Outcome 7: Analyse and evaluate financial information.					
Expected learning outcomes on a level of a course					
1. Apply the basics of mathematical analysis to a single variable function. 2. Solve problems from the basics of financial mathematics. 3. Solve problems from the basics of linear algebra. 4. Explain concepts from the basics of mathematical analysis, the basics of financial mathematics and the basics of linear algebra.					
Content of a course					
Basic symbols of mathematical logic and theory of sets. Sets of numbers. Concept, way of setting functions and some of their features. Concept of a function domain. Classification of functions. Elementary functions. Graphical chart and characteristics of some elementary functions. Concept of series. Arithmetic and geometric series. Finite and infinite series. Limiting value series. Convergence and divergence. Equilibrium analysis in economy. Partial market analysis, linear and nonlinear model. General market equilibrium. Equilibrium in national income analysis. Proportionality. Average calculus. Percentage and promille calculi. Rule of three. Division calculus. Composition calculus. Recursive calculus. Interest calculus: simple and compound; discursive and anticipated. Nominal, relative and equivalent interest rate. Periodic payment and disbursement. Present and final value of periodic payment and disbursement. Loan. Fixed payment quota or fixed annuity, paying at the beginning and at the end of period. Loan conversion.					
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 1	Test 2	Threshold	Max
Outcome 1	17%				8,5%	17%
Outcome 2	16%	14%			15%	30%
Outcome 3		23%			11,5%	23%
Outcome 4			10%	20%	15%	30%
Percentage of ECTS	1,98	2,22	0,6	1,2		6
Total	33%	37%	10%	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.

Exam term:

Outcomes	Written exam	Oral exam	Max
Outcome 1	17%		17%
Outcome 2	30%		30%
Outcome 3	23%		23%
Outcome 4		30%	30%
Percentage of ECTS	4,2	1,8	6
Total	70%	30%	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. Štambuk Lj. : Poslovna matematika 1, Karlovac, 2006.
2. Mirta Mataija, Maja Gligora M., Mirjana Rakamarić Š. : MATEMATIKA Zbirka ispitnih zadataka

Additional literature

1. Šorić K. : Zbirka zadataka iz matematike sa primjenom u ekonomiji
2. Relić B. : Gospodarska matematika, Zagreb 2002.
3. Other textbooks and collections that include teaching topics to be covered in the course.

