

DESCRIPTION OF A STUDY COURSE – SYLLABUS

Title of a course	Quantitative Methods for Entrepreneurs				
Head of course	MSc Mirjana Rakamarić Grlica, Senior Lecturer MSc Mirta Mataja, Lecturer				
Study programme	Specialist professional graduate study Entrepreneurship				
Status of a course	Obligatory				
Year of study	1.	Semester	II.	ECTS credits	6
Teaching plan (L + E + S+ Pr)	2+2+0+0				
Goals of a course					
The aim of course is to get to know and teach students how to use methods that solve some business decision problems and methods for analyzing and optimizing them.					
Conditions for enrolling course					
No conditions					
Learning outcomes on a level of a study programme which includes course					
Outcome 1: Recommend solutions for business operations improvement by analysing business indicators and reports. Outcome 3: Apply management and marketing tools in managing business processes. Outcome 6: Apply methodology for planning and controlling the implementation of various plans. Outcome 8: Propose ways to manage human and other business resources. Outcome 9: Apply methodology of professional and scientific research work in various business situations.					
Expected learning outcomes on a level of a course					
1. Explain concepts from the fundamentals of linear programming and fundamentals of transportation problem. 2. Solve problems from the fundamentals of linear programming and fundamentals of transportation problem. 3. Explain the basic economic functions and basics of regression and correlation analysis. 4. Solve problems from basic economic functions and basics of regression and correlation analysis.					
Content of a course					
Basics of econometrics. Concept. Variables and functions. Simple linear regression. Multiple linear regressions. Stock model. Network planning and management. Linear programming. The transport problem. Linear fractional programming. Multi-objective linear programming. Input - output analysis. Elements of game theory. Analytical hierarchy process. Methods of decision trees. Fundamentals of graph theory. Integer programming. Data analysis for business analysis. Network programming. Queuing models.					
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	Test 1	Pre-exam I	Pre-exam 2	Pre-exam 3	Oral examination	Threshold	Max
Outcome 1	15%					7,5%	15%
Outcome 2		20%	15%			17,5%	35%
Outcome 3					20%	10%	20%
Outcome 4				20%	10%	15%	30%
Percentage of ECTS	0,6	0,8	0,6	0,8	1,2		4
Total	15%	20%	15%	20%	30%	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		15%	15%
Outcome 2	35%		35%
Outcome 3		15%	15%
Outcome 4	35%		35%
Percentage of ECTS	2,8	1,2	
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. H. Pašagić: Matematičke metode u prometu, Fakultet prometnih znanosti, Zagreb 2003.
2. Materials from lectures and exercises.

Additional literature

1. H. Pašagić, B. Ivanković, N. Kapetanović: Operacijska istraživanja u prometu, zbirka zadataka, 2013.,
2. D. Barković: Operacijska istraživanja, Ekonomski fakultet Osijek, 2002.
3. Z. Babić: Linearno programiranje, Ekonomski fakultet Split, 2005.
4. D. Kalpić, V. Mornar: Operacijska istraživanja, Drip, Zagreb 1996.

