

## RTU Course "Quantitative Methods for Economics"

## 22000 Faculty of Engineering Economics and Management

General data

Course title  Quantitative Methods for Economics  Computsory/Courses of Limited Choice; Courses of Free Choice  (Exponsible instructor)  Astra Auzipa Emisipa  Maris Buikis Velga Ozolipa Valadinaris Nikišins Livija Liepa-Hazeleja  (Folume of the course: parts and credits points)  I part, 4,0 credits  Amguage of instruction  Annotation  The study course provides insight into economic - mathematical methods and models and decision making process. Within the course, students learn forecasting methods by using time series, models for examining economic relationships, models of linear programming, simulation and elements of the queuing theory.  The study course provides insight into economic - mathematical methods and models and decision models for examining economic relationships, models of linear programming, simulation and elements of the queuing theory.  The aim of the study course:  The tasks of the study course in the malysis of economic situations and management problems and in the decision-making process.  The tasks of the study course:  The tasks of the study course in the model studies and management problems and the characteristics of the situation;  The product the shilly to analysis and understand the obtained results and be able to apply them in deci	General data	
Compulsory/Courses of Limited Choice; Courses of Free Choice  Astra Autiga-Emsiga  Mairs Buiks Velga Ozolina Vladmirs Nikišis Una Pentjuša Evija Leipa-Hazeleja  folume of the course: parts and credits points  I.V. EN  I. Part, 4.0 credits  L.V. EN  The study course provides insight into economic - mathematical methods and models and decision making process. Within the course, students learn forecasting methods by using time series, models for examining economic relationships, models of linear programming, simulation and elements of the queuing theory.  The aim of the study course is to provide knowledge about important quantitative methods used in conomics and their application in the analysis of economic situations and management problems and their application in the analysis of economic situations and management problems and their application in the analysis of economic situations and management problems and understanding of the importance of quantitative methods in the decision-making process.  The tasks of the study course:  1) to create an understanding of the importance of quantitative methods in the decision-making process.  The tasks of the study course:  1) to create an understanding of the importance of quantitative methods in the decision-making process.  The tasks of the study course:  1) to create an understanding of the importance of quantitative methods in the decision-making process.  The tasks of the study course is necessity of the situation.  3) to develop skills of creating a model for analysing the given situation;  4) to promote the ability to analysing the given situation;  4) to promote the ability to analysing the given situation, taking into account the available data and the characteristics of the situation.  3) to develop the ability to acry out solution using an appropriate computer program, to evaluate the quality of the created model;  5) to improve the ability to analysing the given situation, and to account the area of the situation and data, form the model, solve it and describ	Code	IV0015
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## Course contents

Course contents				
Content		part-time al studies	Part time extramural studies	
	Contact Hours	Indep. work	Contact Hours	Indep. work
Introduction – the most significant quantitative methods, the notion "model" and decision-making process.	6	4	2	8
Time series methods for analysis and forecasting.	6	8	3	10
Correlation-regression methods.	6	4	4	8
Statistical quality control.	4	2	4	4
Linear programming.	8	12	4	14

Simulation modelling.	6	4	3	8
Queuing theory.	6	4	2	8
Laboratory assignments.	18	22	8	30
Total:	60	60	30	90

Learning outcomes and assessment

Learning outcomes	Assessment methods
Is able to list and characterise the main quantitative methods, which are used in economics. Can name the method, which corresponds to characterisation or describes a particular method.	Quiz, exam questions. Activity, participation in practical works.
Knows what model is and is able to construct a model, which corresponds to a particular method. Can define a model, develop it in accordance with a particular method, using the given information and data.	Quiz, practical works tests, exam.
Is able to use the model for obtaining results. Can obtain results, using the appropriate algorithm and software.	Practical works, tests, exam.
Is able to analyse the obtained results and explain the meaning of the obtained results.	Quiz, practical works, tests, exam.
Is able to interpret the values of indicators, which are used for the characterisation of a particular model or situation. Can to evaluate the correspondence of a particular indicator to definite criteria.	Quiz, practical works, tests, exam.

Evaluation criteria of study results

Criterion	%
Quizzes. Tests	15
Practical works	20
Activity, participation in practical works	15
Exam	50
Total:	100

Study subject structure

Part	CP	Hours				Tests			Tests (free choice)		
		Lectures	Practical	Lab.	Test	Exam	Work	Test	Exam	Work	
1.	4.0	40.0	20.0	0.0		*			*		