Course Unit Descriptor

Study Programme: MB-Applied mathematics

Course Unit Title: Mathematical models in economics

Course Unit Code: MB13

Name of Lecturer(s): Zorana Lužanin

Type and Level of Studies: Master Academic Degree

Course Status (compulsory/elective): elective

Semester (winter/summer): summer

Language of instruction: serbian

Mode of course unit delivery (face-to-face/distance learning): face-to-face

Number of ECTS Allocated: 7.5

Prerequisites:

Course Aims:

The aim of this course is to introduce students of mathematics to a few of the countless applications of mathematics in modern economics and finance. Much of the mathematics will be familiar, and the emphasis will be on applying it in economics.

Learning Outcomes:

Students will have a functional knowledge of mathematical models that are used in microeconomics and macroeconomics.

Students will be able to define and apply appropriate model for the practical problem (consumption, production, inflation, unemployment, exchange rate, etc.).

Syllabus:

Theory

Models in microeconomics: preference and choice; budgets; demand function; classical demand theory; preference and utility; production; equilibrium;

Models in macroeconomics: goods and money market dynamics; IS-LM model

Practice

Tasks and problems are solved, practical lessons follow the teaching content i.e. theoretical instructions.

Required Reading:

1. K. J. Arrow, M. D. Intriligator, eds, Handook of Mathematical Economics, Elsevier Science Publishing Company, 1987
2. A. de la Fuente, Mathematical Methods and Models for Economists, Cambridge University Press, 2000
3. A. Mas-Collel, M. D. Whinston, J. R. Green, Microeconomic Theory, Oxford University Press, 1995
4. R. Shone: Economic Dynamics, Cambridge, 2002
5. H. R. Varian, eds, Economic and Financial Modelling with Mathematics, Springer, 1993

Weekly Contact Hours:	**Lectures: 4**	**Practical work: 2**

Teaching Methods:

Lectures, exercises, analysis of examples with applications, writing reports

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	**Final exam**	points

Active class participation		written exam	
Practical work	20	oral exam	40
Preliminary exam(s)	2x20=40	…….	
Seminar(s)			
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			