

Study programme(s): Mathematics (M), Applied Mathematics (MAP)
Course title: MATHEMATICAL FOUNDATIONS OF ECONOMICS (M133)
Lecturer(s): Jasna V. Atanasijević
Course status: elective (M), compulsory on module: Mathematics of Finance (MAP)
ECTS points: 5
Requirements:
Learning Objectives To introduce students to the principles of economy as a scientific field, understanding economic phenomena in a modeling/mathematical way.
Learning Outcomes At the end of the course, the student should master the basic principles of the economy, understand the functioning of the market (consumer behavior, company behavior, price formation, elasticity, basic factors affecting supply, demand and price formation), to understand the reasons for state intervention, principles of fairness and efficiency, and models for analyzing macroeconomic policy. Based on these concepts, a student should have adopted a modeling way of reasoning and should be able to explain the underlying factors that determine the outcomes of practical economic problems with the help of the mastered concepts that represent the content of the course.
Syllabus <i>Theoretical instructions</i> Introduction - Principles of economy - Model approach in economics Microeconomics - Market analysis: supply, demand, balance - Elasticity and its application - Consumer behavior and demand functions - Supply theory: production and costs - Public sector economics: externals, public goods, tax system - Consumer behavior in competitive markets - Imperfect competition: monopoly, oligopoly, monopoly competition - Manufacturing factor market: labor market Macroeconomics - Macroeconomic data: gross domestic product, unemployment, inflation - Savings, investments, and the financial system - Open economy macroeconomics - Short-term economic fluctuations, aggregate demand, and aggregate supply - Impact of monetary and fiscal policy on aggregate demand
Literature 1. Gregory Mankiw, Principi ekonomije, Centar za izdavačku delatnost Ekonomskog fakulteta u Beogradu (2013) 2. C.J. McKenna and Ray Rees, Economics: A Mathematical Introduction, Oxford University Press (1993)

3. Hal R. Varian, **Mikroekonomija, moderan pristup** (7. izdanje), Ekonomski fakultet (2014)
4. Michael Burda and Charles Wyplosz, **Makroekonomija – evropski udžbenik**, CLDS (2004)
5. Joseph Stiglitz, **Ekonomija javnog sektora** (3. izdanje), Ekonomski fakultet (2013)

Number of active classes

Lectures: 4

Exercises: 0

Teaching methods

Lectures are conducted in the form of classical expository lessons with presentations using projectors. In addition to lectures, occasional discussions are conducted and practical problems are solved as an illustration of presented theoretical concepts. As an integral part of teaching, students are given homework to, in groups of 3-5, to process a particular topic concerning the practical application of an economic concept, to explore, understand and present to the rest of the group. Presentations are followed by discussions and a feedback grading mark that evaluates the form, content and depth of understanding of practical phenomena and/or interpretation of the appropriate economic model.

Grading (maximum number of points 100)

Pre-exam obligations	Points	Final exam	Points
homework presentation	30	written exam	70