



COURSE UNIT (MODULE) DESCRIPTION

Course unit (module) title	Course (unit) code
Microeconomic analysis	MIKEA

Lecturer(s)	Department(s) where the course unit (module) is delivered
lect. Dmitrij Celov	Statistical analysis department

Study cycle	Type of the course unit (module)
The second cycle	Compulsory

Mode of delivery	Period when the course unit (module) is delivered	Language(s) of instruction
Classroom	The first (fall) semester	English or Lithuanian

Requirements for students	
Prerequisites: Microeconomics	Additional requirements (if any):

Course (module) volume in credits	Total student's workload	Contact hours	Self-study hours
5	150	42	108

Purpose of the course unit (module): programme competences to be developed		
<p>The course aims to:</p> <ul style="list-style-type: none"> • Develop students' independence, creativity, and the ability to strictly formalize different microeconomic problems; • Educate the ability to apply knowledge and deep understanding of microeconomic concepts creating, analyzing and critically evaluating microeconomic and micro-econometric models. 		
Learning outcomes of the course unit (module)	Teaching and learning methods	Assessment methods
At the completion of this course, students will be able to:		
<ul style="list-style-type: none"> • Explore the microeconomic models related to the firm and consumer behaviour, welfare economics under various specific conditions; • Justify the optimality conditions solving economic agents' decision making problems: under (un)certainly, in the context of strategic interaction or making individual decisions; • Apply theoretical models challenging similar applied microeconomic issues. 	Involved lecture, problem based learning	Tests, computer experiments, midterm and final written exams
<ul style="list-style-type: none"> • Logically and mathematically formalize microeconomic problems; • Apply microeconomic methods: comparative statics, envelope theorem; • Solve (un)constrained optimization problems; • Present the model outcomes both at advanced and intuitive levels. 	Active learning methods (case studies, group discussions), research methods (individual problem solving, report preparation, case study), seminar presentation	Individual problem solving and presentation of the solutions, seminar presentation, case study, the midterm and final written exam

Content: breakdown of the topics	Contact hours						Self-study work: time and assignments		
	Lectures	Tutorials	Seminars	Exercises	Laboratory work	Internship/work placement	Contact hours	Self-study hours	Assignments
1. Microeconomics as the social science: marginalism paradigm, theory, model, refutable propositions, comparative statics: FOC tools, envelope theorems, implicit function theorems, monotone comparative statics.	2		1				3	10	[S] Ch. 1, Ch.6-7, [K] Ch. 1.1-1.3, [LR] Ch. 5 HW: [S]: 1.3, 1.8, 1.12, 1.13, 6.4, 6.6-6.10, 7.1 -7.5
2. Preference and choice: goods, preferences, choice rules, weak and strong axioms of revealed preference, utility representation of preferences, their properties, criticism of rational choice models.	6		1				7	12	[MWG] Ch. 1A-1D and Ch. 3A-3C, [K] Ch. 2.1, [V] Ch. 7 HW: [MWG]: 1B3, 1B4, 1C1, 1C3, 1D3, 3C5, 3C6, K2.1, V7.1.
3. Consumer theory: consumer problem, competitive budgets, utility maximization, duality, relationships between utility functions, marshallian and aggregate demand function, consumer welfare.	6		1				7	12	[MWG] Ch. 2A-2F, 3D-3J, 4B-4D, [K] Ch. 2.2-2.4, [V] Ch. 7-10 HW: [MWG]: 2D2, 2D3, 2E7, 2E8, 2F4, 2F16, 2F17, 3D5-D7, 3G8, 3G14-G17, 3I8, 4C11, [V]: 7.3-7.6, 8.3-8.7, 8.13, 8.14, 9.7, 9.11
4. Firm theory: production sets and technology, profit and cost functions, duality, aggregate supply and equilibrium in the short and long-runs.	2		1	1			4	12	[MWG] Ch. 5, [K] Ch 7.1-7.5, [V] Ch. 1-5 HW: [MWG]: 5B6, 5C8-C10, 5C13, 5E4, 5E5, [V]: 1.9, 1.11, 3.1-3.5, 4.3-4.8, 5.1-5.6, 5.9, 5.11, 5.15, 5.16
Midterm exam								10	Preparation to the midterm exam
5. Choice under uncertainty: lottery, expected utility function, risk aversion, Arrow-Pratt coefficient of absolute risk aversion, moral hazard, asymmetric information, risk preferences and wealth	6		1				7	12	[MWG] Ch. 6, Ch.13A-13B, Ch. 14A-14B [K] Ch. 3, [V] Ch. 11 HW: [MWG]: 6B7, 6C9, 6C12, 6C15-C19, [V]: 11.5-11.12
6. The price mechanism: (pure) competitive markets, Pareto optimality, partial equilibrium, fundamental welfare theorems, market power, monopoly, nonlinear pricing, oligopoly, classical models of duopoly	4		1				5	12	[MWG] Ch. 10, and 12A-12C, [K] Ch. 8-10, [V] Ch.13-14, 16 HW: [MWG] 10G3-G5, 12B1-B3, 12B6-B8, 12C4, 12C8-C10, [V]: 13.3-13.8, 14.15-14.23, 16.10-16.12

7. General equilibrium and public economics: general equilibrium and welfare, externalities and public goods, market failures and regulations	3		1			4	9	[MWG] Ch. 11, 15, 16 [K] Ch. 6, [V] Ch. 23-24 HW: [MWG]: 11B-B2, 11D1-D3, 11D5-D7, 11E5, 15B1, 15B6, 15D7-D8, 16G5 [V]: 23.3-23.6, 24.1
8. Welfare economics and incentives: social preferences and welfare functions, their invariance properties, the bargaining approach to the socially optimal choice	3		1	1		5	9	[MWG] Ch. 21, 22 [V] Ch. 21-22, [K] Ch. 5 HW: [MWG]: 22F5 [V]: 21.2-21.3, 22.2
Final exam							10	Preparation to the final exam
Total	32		8	2		42	108	

Assessment strategy	Weight, %	Deadline	Assessment criteria
The general assessment framework. 10-point grade system. The final grade is passed only if a final exam is passed (a student must score more than 4 points). The final grade is a weighted average of all the parts detailed below. Additional points may be collected for participation at experiments, workshops, organization of debates, presentations, original solutions to the homework assignments.			
Seminar presentation	10 %	During the semester	Presentation of microeconomic applications and/or organization of behavioral experiments (public goods, auctions). Seminar topics: data envelope analysis, conjoint analysis, market response models, a comparison of firm and consumer behavior, auctions, public goods.
Homework assignments	10 %	During the semester	Solutions to homework assignments are presented to the class during recitation hours. Problems are divided into groups according to their complexity (0.5 and 1 points). A student supposed to collect at least 2 point to receive the highest grade for this part. Corrections and crucial assistance from the other students are graded in proportion to the solved part.
Midterm exam	40 %	During the semester	Midterm exam consists of the first 4 topics. The quiz questions are provided in a semi-open form: after the correct answer to a closed form question is provided, a brief explanation of the choice is needed. Questions and problems are similar to solved during classes and homework assignments. The midterm grade is normalized by the value $\max\{8, \text{untransformed midterm grades}\}$.
Final exam	40 %	January	The final exam consists of the topics 5-8. The quiz questions are provided in a semi-open form: after the correct answer to a closed form question is provided, a brief explanation of the choice is needed. Questions and problems are similar to solved during classes and homework assignments. The final exam's grade is normalized by the value $\max\{8, \text{untransformed midterm grades}\}$. The student must score more than 4 after the transformation during the final exam for the final grade to be passed.

Author	Year of publication	Title	Issue of a periodical or volume of a publication	Publishing place and house or web link
Compulsory reading				
[MWG] Mas-Colell A., Winston D.W. and	2004	Microeconomic Theory		MIF VU EA department (1) EF VU (1)

Green J.R.				
[V] Varian H.R.	1992	Microeconomic Analysis		EF VU (5)
[K] Kreps D.M.	1990	A Course in Microeconomic Theory		MIF VU EA department (1)
Optional reading				
[LR] J. Levin, A. Rangel	2001	Useful Math for Microeconomics		http://uosis.mif.vu.lt/~celov
[S] Silberberg E., Suen W.	2001	The Structure of Economics: a mathematical analysis		MIF VU EA department (1)
Бусыгин В.П., Желободько Е.В., Цыпалков А.А.	2003	Микроэкономика – третий уровень		www.math.nsc.ru/~mathecon/Marakulin/For%20Students/Micro3_Book
Rasimavičius J.	2008	Мakро-ekonometrinis modeliavimas (In Lith.)		http://uosis.mif.vu.lt/~celov
Frank R.H.	2008	Microeconomics and Behaviour		MIF VU (1) EA department (1) EF VU (7)