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DESCRIPTION OF THE COURSE

GENERAL INFORMATION		
Course Holder	**Darija Korkut, mag. angl.**	
The name of the college	**Neuroeconomics**	
Study program	**Professional Graduate Study of Business Management - MBA**	
Status of the College	**Mandatory**	
Year	**2nd Year**	
Point value and method of teaching	**ECTS coefficient of student workload**	**6**
	Number of hours (P+V)	**28+28**

DESCRIPTION OF THE COURSE
1.1. *Objectives of the course*
Neuroeconomics is a relatively new interdisciplinary field that has developed at the intersection of psychology, economics, and neuroscience. Its goal is to understand human decision-making in a social and economic context at a descriptive (functional and brain) level. The aim of the course is to provide knowledge about decision-making, management and management from the perspective of new discoveries in neuroscience and cognitive sciences and to explore the rapidly growing areas of behavioral economics and neuromarketing. Through the course, students will gain a better and holistic insight into the complementary methodological contributions of behavioral economics, cognitive psychology, neurophysiology, and neuroimaging. The course analyzes the process of information processing in the brain, structures and mechanisms that are the basis of cognitive and emotional behavior. Part of the course is dedicated to illustrating examples and experiences of neuroscience and methodological approach. The models developed in the course will give students a theoretical insight into the problems that arise in economics and business and will enable them to make better predictions. Upon completion, students should be able to design and conduct research in the field of neuroeconomics. Students will learn how neuromarketing can help businesses gain a deeper understanding of their consumers – how they think, how they make decisions, and how they buy.
1.2. *Requirements for enrolment in the course*

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1.3. *Expected learning outcomes for the course*

Students should be able to:

1. Critically assess the key concepts, goals and tasks of neuroeconomics as an interdisciplinary science.
2. Analyze cognitive neuroscience methods used in the study of decisions and behavior.
3. Apply knowledge about the brain and its role in the formation of preferences and decision-making.
4. Propose relevant theories and models from brain science and/or economics to describe and solve a specific (business) problem.
5. Recommend the application of modern tools used in the field of neuroeconomics and their implications for economic decision-making.
6. Apply the tools that are necessary to understand and use neuromarketing in a business or organization.

1.4. *Course content*

Introduction to the College

Key Concepts, Objectives and Tasks of Neuroeconomics

- How does neuroscience inform economics?
- History of Neuroeconomics
- The main assumptions of neuroeconomics
- Experimental Economics and Neuroeconomics

Methods of cognitive neuroscience

- Cognitive neuroscience
- Methods of neuroscientific research

The brain and its role in the formation of preferences and decision-making

- Anatomy of the brain
- Brain Processes and Localization of Brain Functions
- Neural networks
- Affective Decision Mechanisms: Neuroeconomics and Emotions
- Psychopathology and brain damage in humans

Theories and models from brain science

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The theory of expected choice Intertemporal decisions *Social Decision-Making*: Trust, Fairness and Reciprocity Tools of neuroeconomics Brain models of decision-making and choice Stages of Decision Making in Neuroeconomics Programming Decisions: *(Drift) Diffusion Model* Neuromarketing Neuromarketing and Consumer Behavior Biometric measurements Neurometric measurements Case studies, practical tasks		
1.5. *Types of teaching (put X)*	☒ lectures ☐ seminars and workshops ☒ exercises ☐ Distance education ☐ Field Teaching	☒ Independent tasks ☐ Multimedia & Network ☐ laboratory ☐ Mentoring work ☐ Other_____
1.6. *Student obligations*		
The obligations of students are prescribed in detail by the Statute, Study Regulations, and Student Obligations Guidelines. The key obligations of students are: ATTENDANCE AT CLASSES: students are obliged to attend classes, actively follow lectures and exercises, and participate constructively in classes, and in order to acquire the right to take the exam, it is necessary to attend classes in the percentages prescribed by the Study Regulations. For each student, their presence in class is recorded through the Infoeduka digital office system. The minimum obligations are; • *Full-time students must attend at least 70% of the total number of classes to be eligible to sign.* • *Part-time students need to attend at least 50% of the total number of classes to be eligible to sign.*		

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PASSING EXAMS: *in order to achieve a positive grade in the subject, it is necessary to achieve at least 54 points in the subject, but also at least 50% of points for each learning outcome. The method of taking the exam is described in more detail in the item Assessment and evaluation of students' work during classes and at the final exam.*
**FINAL EXAM – a student who has not met the conditions for passing the exam during the continuous examination of knowledge (has achieved a total of at least 54 points in the course and has met the lower point threshold of adoption of each learning outcome, i.e. a minimum of 50% of the points of each learning outcome), may take the learning outcomes of the course at the final exam.*

WRITTEN EXAM: *the student is required to take a written exam that verifies the acquisition of advanced theoretical knowledge related to recent knowledge in neuroeconomics, experimental economics and cognitive neuroscience, as well as related methods and concepts. This form of verification will also test theoretical knowledge about anatomy and the role of the brain in the formation of preferences and decision-making, as well as affective decision-making mechanisms.*
PRACTICAL WORK: *the student is obliged to participate in solving individual problem tasks that verify the acquisition of knowledge and skills necessary to understand the theory of expected choice, intertemporal decisions and concepts of social decision-making, and practical knowledge of decision programming models is also tested.*
GROUP PROJECT: *the student is required to conduct an analysis of a neuromarketing campaign for a specific product or service using biometric and neurometric measurements to study the emotional and cognitive reactions of consumers to selected marketing stimuli. In this way, they will apply theoretical knowledge about neuromarketing in practice and develop analytical skills in the interpretation of biometric and neurometric data.*

** CONTINUOUS EXAMINATION: In order to make students progress more efficiently in class, continuous examinations (3 intermediate exams) are carried out. In this way, students acquire smaller teaching units and master the subject material more easily.*

1.7. *Student Work Tracking (Add X to the appropriate tracking format)*

Attending classes	x	Teaching activity		Seminar paper		Experimental work	
Written exam	x	Oral exam		Essay		Research	
Project	x	Continuous Assessment*		Report		Practical work	x
Portfolio							

1.8. *Assessment and evaluation of students' work during classes and at the final exam*

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Evaluation and evaluation of students' work during classes and at the final exam is carried out on the basis of the Regulations on Studying of the EFFECTUS University of Applied Sciences.Allocation of points according to the forms of student work monitoring:

	Attending classes	Written exam	Project	Practical work	Altogether
I1		16			16
I2		16			16
I3		16			16
I4				16	16
I5				16	16
I6			16		16
OUT OF OUTCOME	4				4
ALTOGETHER	4	48	16	32	100

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Linking learning outcomes, teaching methods and knowledge assessment methods:

FORMS OF TRACKING	***NAME OF LEARNING OUTCOMES***	**TEACHING METHOD**	**KNOWLEDGE ASSESSMENT METHOD**	**Maximum number of points**
Written exam	*OUTCOME 1 Critically assess the key concepts, goals and tasks of neuroeconomics as an interdisciplinary science.*	*lecture*	*Exam in the form of an essay on a given topic: essay-type questions are used to check the acquisition of advanced theoretical knowledge related to recent knowledge in neuroeconomics, experimental economics and cognitive neuroscience, as well as related methods and concepts. This form of verification will test both theoretical and practical knowledge about anatomy and the role of the brain in the formation of preferences and decision-making, as well as affective decision-making mechanisms.*	*48*
		Asking questions		
		discussion		
	OUTCOME 2 Analyze cognitive neuroscience methods used in the study of decisions and behavior.	*lecture*		
		discussion		
		Asking open-ended questions		
	OUTCOME 3 Apply knowledge about the brain and its role in the formation of preferences and decision-making.	*lecture*		
		discussion		
		Asking open-ended questions		

Practical work	*OUTCOME 4* *Propose relevant theories and models from brain science and/or economics to describe and solve a specific (business) problem.*	*lecture*	*Problem tasks: individual problem tasks will test the acquisition of knowledge and skills necessary to understand the theory of expected choice, intertemporal decisions and concepts of social decision-making, and practical knowledge of decision programming models will also be tested.*	*32*	
		Asking open-ended questions			
	OUTCOME 5 *Recommend the application of modern tools used in the field of neuroeconomics and their implications for economic decision-making.*	*lecture*			
		Asking open-ended questions			
		Rehearsal and feedback			
Project	*OUTCOME 6* *Apply the tools that are necessary to understand and use neuromarketing in a business or organization.*	*Guided training*	*Group project: Students will analyze a neuromarketing campaign for a specific product or service by using biometric and neurometric measurements to study consumers' emotional and cognitive responses to selected marketing stimuli. In this way, they will apply theoretical knowledge about neuromarketing in practice and develop analytical skills in the interpretation of biometric and neurometric data.*	*16*	
		Rehearsal and feedback			

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Attending classes	*All outcomes*	*Lectures and exercises*	*Attendance records*	*4*
			TOTAL POINTS	***100***

Type of student workload	***Student Load Hours***	***ECTS credits***
Attending contact classes	56	1,87
Field Trips/Visits Outside the College	0	0
Independent study/research	40	1,33
Out-of-classroom preparation and preparation of seminars/presentations	25	0,83
Work on an out-of-classroom project assignment	0	0
Independent preparation for exams and exam time	44	1,47
Consultation activities	15	0,50
Other	0	0
TOTAL ECTS credits	**180**	**6**

RATING:

In order to achieve a positive grade in the course, the student must cumulatively meet two conditions: achieve a total of at least 54 (fifty-four) points in the course and meet the lower point threshold for the adoption of each individual learning outcome, which is 50% of the total points of the learning outcomes.

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Grades are calculated based on the following distribution of points:

SCORE	*RATING*
0,00 – 53,90	*Insufficient (1)*
54,00 – 64,90	*Sufficient (2)*
65,00 – 79,90	*Good (3)*
80,00 – 89,90	*Very good (4)*
90.00 and more	*Excellent (5)*

Grading is carried out in a transparent manner by collecting points. The course is evaluated with 100.00 points (with the possibility of achieving an additional 8 points on the Challenge learning outcome).

CHALLENGE LEARNING OUTCOME - the student has the opportunity to earn an additional maximum of 8 points through the Challenge learning outcome; The student independently chooses one of the activities proposed in the first lesson, and has the opportunity to independently propose an activity with which he wants to increase the number of points and, with the consent of the course holder, achieves them according to the criteria of the course. Points for the Challenge learning outcome are not distributed according to the learning outcomes, but the number achieved makes an additional number of points to the total number of points achieved according to the learning outcomes.

Before taking the final written exam, each student must meet the prescribed conditions, which primarily means that they have attended the % of classes determined by the Study Regulations and that they have received an electronically encrypted permission to take the exam.

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1.9. *Required reading and number of copies in relation to the number of students currently attending classes in the course*

Title	*Number of copies*	*Number of students*
Glimcher, P., and Fehr, E. (2013): Neuroeconomics: Decision Making and the Brain: Second Edition. Elsevier Inc.	*5** **students receive compulsory literature in permanent ownership*	*60*

1.10. Supplementary literature

Šimić, G. et al. (2019). Introduction to the neuroscience of learning and memory. Ljevak Publishing House
Šimić, G. et al. (2020). An introduction to the neuroscience of emotions and feelings. Ljevak Publishing House
Lindstrom, Martin (2009). Brand sense: The Revolution of Sensory Branding, M. E. P.
Kahneman, D. (2013). Think, Fast and Slow, Mosaic of Books
Lindstrom, Martin (2012). KUPOLOGY: Truths and Lies about Why We Buy, Profile
Botvinick, M. and Braver, T. (2015). "Motivation and cognitive control: From behavior to neural mechanism." Annual Review of Psychology, 66(1), 83-113.
Genco, S. J., Pohlman, A. P., and Steidl, P. (2013). Neuromarketing for Dummies, 1st edition, Mississauya (ON): John Wiley and Sons, Canada.
Javor, A., Koller, M., Lee, N., Chamberlain, L., & Ransmayr, G. (2013). Neuromarketing and consumer neuroscience: contributions to neurology. BMC Neurology, 13(1), 13.
Genco, S.J., Pohlman, A.P., and Steidl, P (2013). Neuromarketing for Dummies, 1st edition, Mississauya (ON): John Wiley and Sons, Canada.
Javor, A., Koller, M., Lee, N., Chamberlain, L., & Ransmayr, G. (2013). Neuromarketing and consumer neuroscience: contributions to neurology. BMC Neurology, 13(1), 13.
Camerer, C., Loewenstein, G., and Prelec, D. (2005). Neuroeconomics: How neuroscience can inform economics. Journal of Economic Literature, 43(1), 9-64.
Loewenstein, G., Rick, S., Cohen, J. (2007). Neuroeconomics. Annual Review of Psychology, 59,1-26
Kable, J.W. (2011). The cognitive neuroscience toolkit for the neuroeconomist: A functional overview, Journal of Neuroscience, Psychology, and Economics, 4(2), 63-84.
Baars, B. J., & Gage, N. M. (2013). Fundamentals of cognitive neuroscience: A beginner's guide. Elsevier Academic Press.
Ramsøy, T. Z. (2015). Introduction to Neuromarketing & Consumer Neuroscience. Neurons Inc.

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Damasio, Antonio R. (1994). Descartes' error : emotion, reason, and the human brain. G.P. Putnam.
1.11. Ways of quality monitoring that ensure the acquisition of output knowledge, skills and competencies
• *analysis of exam results, achieved results, level of understanding and knowledge during exercises, practical tasks and group work,* • *conducting a survey among students,* • *The evaluation of the teacher,* • *achieved results and level of knowledge presented during the preparation and defense of the final thesis (students who choose a graduate thesis in this course),* • *analysis of the Quality Centre's reports and* • *Feedback from students who have already graduated and their employers on the usefulness of the content of this course in the performance of the work they do.*