

## Course Descriptions NonDegree 2020-2021

Course Title	Neuroeconomics: Decision Making and the Brain
Course Code	EBC2166
ECTS Credits	6,5
Assessment	Whole/Half Grades

Period	Start	End	Mon	Tue	Wed	Thu	Fri
4	1-2-2021	26-3-2021	X		X		

Level Intermediate/Advanced

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Language of instruction English

Goals Students will recognize different disciplinary approaches to understand human decision-making and compare these to the interdisciplinary approach of Neuroeconomics. They will summarize different models within the area of Neuroeconomics and apply them to various decision-making domains. Students will also learn to critically evaluate existing studies.

Description PLEASE NOTE THAT THE INFORMATION ABOUT THE TEACHING AND ASSESSMENT METHOD(S) USED IN THIS COURSE IS WITH RESERVATION. THE INFORMATION PROVIDED HERE IS BASED ON THE COURSE SETUP PRIOR TO THE CORONAVIRUS CRISIS. AS A CONSEQUENCE OF THE CRISIS, COURSE COORDINATORS MAY BE FORCED TO CHANGE THE TEACHING AND ASSESSMENT METHODS USED. THE MOST UP-TO-DATE INFORMATION ABOUT THE TEACHING/ASSESSMENT METHOD(S) WILL BE AVAILABLE IN THE COURSE SYLLABUS. Neuroeconomics, sometimes also known as Decision Neuroscience, is an emerging field combining insights from economics, psychology and neuroscience to understand how (healthy) humans make decisions and how these are related to underlying cognitive and neural processes. The ultimate aim of Neuroeconomics is to integrate knowledge from the different parent disciplines to answer the fundamental question of how our brain makes us decide. This will help answering important questions like: Why are we procrastinating difficult choices? What makes us cooperating even with strangers? Why are we buying lottery tickets knowing that we almost certainly will lose our money? Why are bubbles on financial markets the standard rather than the exception? This course provides an introduction to this exciting endeavour as well as a critical discussion and reflection on the most important results achieved so far. The course will introduce the general idea behind Neuroeconomics by discussing examples showing the limitations of viewing decision making merely through the lens of the traditional fields of economics, psychology and neuroscience. The course will review various methods used in Neuroeconomics research for measuring and influencing brain activity. An important part of the course will be devoted to learning about the foundations and models of Neuroeconomics such as the basics of neuroscience (including cellular and anatomical structures of the brain), reward prediction error, drift diffusion and multiple self models and how these are related to more standard economic models of individual and interactive decision making (game theory). Equipped with these tools and background, we will read, discuss, and critically evaluate seminal and recent studies in Neuroeconomics. Possible topics include:  
 \* Subjective value and decision making: how does our brain evaluate, compare and make us choosing between different options?  
 \* Decision-making under risk: what are the neural mechanisms underlying our decisions to gamble in the casino and buy insurance contracts?  
 \* Decision-making over time: what are the brain areas that make us patient or impatient and how is their neural activity related to procrastination, need of deadlines and the proneness to intermediate gratification?  
 \* Social decisions: what brain mechanisms make us humans be nice or nasty to other people? Are we intrinsically selfish or generous and how can we find out about it?  
 This interdisciplinary and challenging course consists of lectures and group work. It will use formal concepts from economics and neuroscience. Students should therefore not be afraid of mathematics. The course is ideal for students who are open minded towards methods and models from other disciplines and have a genuine interest in interdisciplinary thinking.

Literature Selected chapters from Glimcher, P. W. and Fehr E. (eds.) 'Neuroeconomics: Decision Making and the Brain', Academic Press, London , UK, 2nd edition, 2014.  
 Selected research articles.

Prerequisites Students should be in the 3rd year of Economics or Business Economics (period 4); the course is also open to students of International Business provided they have sufficient quantitative skills.  
 Students should know the basics of microeconomics and game theory.

Keywords

Teaching methods PBL / Lecture

Assessment methods Final Paper / Attendance / Participation / Written Exam

Evaluation in previous academic year For the complete evaluation of this course please click <http://iwio-sbe.maastrichtuniversity.nl/rapporten.asp?referrer=codeUM>

This course belongs to the following programme / specialisation

Bachelor Economics and Business Economics - Economics	Year 3 Economics Elective(s)
Bachelor Economics and Business Economics - Emerging Markets	Year 3 Elective Course(s)
Bachelor Economics and Business Economics - Economics and Management of Information	Year 2+3 Elective Course(s)
Bachelor Economics and Business Economics - International Business Economics	Year 3 Economics Elec(s) - Maj Accounting
Bachelor Economics and Business Economics - International Business Economics	Year 3 Economics Elec(s) - Maj Finance
Bachelor Economics and Business Economics - International Business Economics	Year 3 Economics Elec(s) - Maj Inf Mgmt
Bachelor Economics and Business Economics - International Business Economics	Year 3 Economics Elec(s) - Maj Marketing
Bachelor Economics and Business Economics - International Business Economics	Year 3 Economics Elec(s) - Maj Org
Bachelor Economics and Business Economics - International Business Economics	Year 3 Economics Elec(s) - Maj SCM
Bachelor Economics and Business Economics - International Business Economics	Year 3 Economics Elec(s) - Maj Strategy
Bachelor International Business	Year 3 Economics Elec(s) - Maj Accounting
Bachelor International Business	Year 3 Economics Elec(s) - Maj Finance
Bachelor International Business	Year 3 Economics Elec(s) - Maj Inf Mgmt
Bachelor International Business	Year 3 Economics Elec(s) - Maj Marketing
Bachelor International Business	Year 3 Economics Elec(s) - Maj Org
Bachelor International Business	Year 3 Economics Elec(s) - Maj SCM
Bachelor International Business	Year 3 Economics Elec(s) - Maj Strategy
Pre-master Human Decision Science	Disciplinary Course(s)
SBE Exchange Bachelor	Bachelor Exchange Courses
SBE Exchange Master	Bachelor Exchange Courses
SBE Non Degree Courses	Bachelor Courses