Course Descriptions NonDegree 2022-2023

Course Title	Dynamic Modelling and Dynamic Optimisation							
Course Code	EBC2116							
ECTS Credits	6,5							
Assessment	Whole/Half Grades							
Period	Period	Start	End	Mon	Tue	Wed	Thu	Fri
	4	6-2-2023	31-3-2023	Х			Х	
level	Advanced							
Coordinator	Marc Schröder For more information:m.schroder@maastrichtuniversity.nl							
Language of instruction	English							
Goals	In this course the student will learn to analyse stability properties of equilibria of dynamic systems in							
	qualitative terms, to apply the maximum principle to optimal control problems, draw phase diagrams with Mathematica and use these to analyse solutions of optimal control problems.							
Description	PLEASE NOTE THAT THE INFORMATION ABOUT THE TEACHING AND ASSESSMENT METHOD(S) USED IN THIS COURSE IS WITH RESERVATION. A RE-EMERGENCE OF THE CORONAVIRUS AND NEW COUNTERMEASURES BY THE DUTCH GOVERNMENT MIGHT FORCE COORDINATORS 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.							
	Dynamic models are important in economic theory and can be found in various fields such as Macro and Micro Economics, Public Choice, Game Theory and Finance. First, systems of differential equations are studied with respect to stability. Next optimal control problems are solved by means of the maximum principle of Pontryagin. Applications range from optimal investment to optimal fishing and problems concerning environmental economics.							
Literature	Léonard, D. and N. van Long, Optimal Control Theory and Static Optimization in Economics, Cambridge University Press, Cambridge, UK, 1992, ISBN 0-521-33746-1							
Prerequisites	isites The student should be familiar with - linear differential equations, - non-linear optimisation, - standard calculus on functions of more than one variable.							
	Exchange students need to follow a Bachelor in economics. An advanced level of English.							
Teaching methods	PBL / Lecture / Assignment / Groupwork							
Assessment methods	Final Paper / Assignment							
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 Eco Economics	onomics and I	Business Eco	nomics -	Year 3 Quan	titative Econo	mics Elective(s)
	Bachelor Eco Emerging Ma	onomics and l arkets	Business Eco	nomics -	Year 3 Electi	ive Course(s)		
	Bachelor Economics and Business Economics - Economics and Management of Information Year 2+3 Quantitative Economics Elective(s)						ve(s)	
	Bachelor Economics and Business Economics - Year 3 QE Elec(s) - Maj Accounting International Business Economics							
	Bachelor Eco International	onomics and Business Eco	Business Eco onomics	nomics -	Year 3 QE E	lec(s) - Maj Fi	nance	
	Bachelor Eco International	onomics and Business Eco	Business Eco onomics	nomics -	Year 3 QE E	lec(s) - Maj In	f Mgmt	
	Bachelor Eco International	onomics and Business Eco	Business Eco onomics	nomics -	Year 3 QE E	lec(s) - Maj M	arketing	
	Bachelor Eco International	onomics and Business Eco	Business Eco onomics	nomics -	Year 3 QE E	lec(s) - Maj O	rg	
	Bachelor Eco International	onomics and Business Eco	Business Eco onomics	nomics -	Year 3 QE E	lec(s) - Maj S	СМ	
	Bachelor Economics and Business Economics - Year 3 QE Elec(s) - Maj Strategy International Business Economics							
	Bachelor International Business - Emerging Markets Year 3 Elective Course(s)							
	Bachelor International Business Year 3 QE Elec(s) - Maj Accounting							
	Bachelor International Business Year 3 QE Elec(s) - Maj Finance							
	Bachelor International Business Year 3 QE Elec(s) - Maj Inf Mgmt							
	Bachelor International Business Year 3 QE Elec(s) - Maj Marketing							
	Bachelor International Business Year 3 QE Elec(s) - Maj Org							
	Bachelor International Business Year 3 QE Elec(s) - Maj SCM							
	Bachelor International Business Year 3 QE Elec(s) - Maj Strategy							
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	SBE Non De	SBE Exchange Master Bachelor Exchange Courses						
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