Course Descriptions Bachelor 2017-2018

Course Title	Dynamic Modelling and Dynamic Optimisation
Course Code	EBC2116
ECTS Credits	6,5
Assessment	None

Period

Period	Start	End	Mon	Tue	Wed	Thu	Fri
4	5-2-2018	6-4-2018	X			X	

Level	Advanced
Coordinator	Ton Storcken, Hans de Graaff For more information:t.storcken@maastrichtuniversity.nl; h.degraaff@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	Besides a great amount of static models in Economic Theory dynamic models are also frequently studied. These models can be found in various fields such as Macro and Micro Economics, Public Choice, Game Theory and Finance. First, dynamic models, in terms of 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 Electronic Courseware for Mathematica.
Prerequisites	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 / 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 Specialisation Economics	QE Electives
Bachelor Economics and Business Economics Specialisation Emerging Markets	QE Electives
Bachelor Economics and Business Economics Specialisation Economics and Management of Information	QE Electives
Bachelor Economics and Business Economics Specialisation International Business Economics	QE Electives
Bachelor International Business	QE electives
SBE Exchange Bachelor	Bachelor Exchange Courses
SBE Exchange Master	Bachelor Exchange Courses
SBE Non Degree Courses	Bachelor Courses