

## Course Descriptions NonDegree 2014-2015

Course Title Quantitative Techniques for Financial Economics  
 Course Code EBC4097  
 ECTS Credits 6,5  
 Assessment None

Period	Start	End	Mon	Tue	Wed	Thu	Fri
1	1-9-2014	24-10-2014	X		X		
4	2-2-2015	3-4-2015	X		X		

Level Advanced

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Language of instruction English

Goals The objectives of the course are to provide student in the Financial Economics master programme with a solid knowledge of stochastic models and econometric techniques used in the analysis of financial markets. The students should be able to read and assess the current literature on stochastic models and econometric methods used in security pricing and empirical finance and to apply the acquired techniques in practice.

Description The course consists of two parts. In the first part, we cover and discuss the theoretical concepts and probability models underlying the pricing, construction, and hedging of (derivative) securities. Key concepts such as arbitrage pricing and risk-neutral valuation are introduced in a formal way and their implementation and use by market practitioners will be discussed. The second part focuses on advanced econometric techniques for modelling financial time series. Topics that are covered include volatility models. Empirical applications will provide students with practical experience in analysing financial time series.

Literature Will be provided.

Prerequisites Solid background in finance and in statistics/econometrics (on the level of a quantitatively oriented economics/finance bachelor). Required concepts from mathematics/statistics are a.o. random variables, probability distributions, statistical tests, regression analysis, ordinary and partial derivatives, exponential function; some basic knowledge in programming (e.g. in VBA, MATLAB, R, OX) will be helpful. An advanced level of English.

Teaching methods PBL / Presentation / Lecture / Assignment

Assessment methods Final Paper / 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

Master Financial Economics	Asset Pricing
Master Financial Economics	Banking
Master Financial Economics	Financial Analysis
SBE Exchange Master	Master Exchange Courses
SBE Non Degree Courses	Master Courses