Course Descriptions None 2023-2024

Course Title	Life Insurance I
Course Code	EBC4119
ECTS Credits	6,5
Assessment	Whole/Half Grades

Period

Period	Start	End	Mon	Tue	Wed	Thu	Fri
4	5-2-2024	28-3-2024		X			X

Level	Advanced
Coordinator	Antoon Pelsser For more information:a.pelsser@maastrichtuniversity.nl
Language of instruction	English
Goals	In this course we aim to teach students the basic principles of pricing life-insurance and pension contract and basic principles of measuring value creation on a market-consistent basis (Market-Consistent Embedded Value). The underlying principle for this course is the notion that the market-consistent value of a life-insurance or pension contract is based on the market-value of the Replicating Portfolio plus an 'add-on' for the remaining (unhedgeable) portions of the risk that are not covered by the Replicating Portfolio.
Description	In this course we aim to teach students the basic principles of pricing life-insurance and pension contract and basic principles of measuring value creation on a market-consistent basis (Market-Consistent Embedded Value). The underlying principle for this course is the notion that the market-consistent value of a life-insurance or pension contract is based on the market-value of the Replicating Portfolio plus an 'add-on' for the remaining (unhedgeable) portions of the risk that are not covered by the Replicating Portfolio. Students should have knowledge of stochastic processes, in particular Brownian Motion, geometric Brownian motion and the underlying stochastic differential equations. Moreover, students should be familiar with the Ito integral and the Ito formula. Computer programming skills are required for all the cases, as these involve numerical calculations.
Literature	Wüthrich and Merz (2013), Financial Modeling, Actuarial Valuation and Solvency in Insurance, Springer.
Prerequisites	Bachelor Level Econometrics and Operations Research, including preparatory courses Actuarial Sciences.
Teaching methods	Lecture / Assignment / Groupwork
Assessment methods	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

Master Business Research - Operations Research	Elective Course(s)
Master Econometrics and Operations Research	E&OR Electives
Master Economic and Financial Research - Econometrics	Elective Course(s)
Master Economic and Financial Research - No specialisation	Elective Course(s)
SBE Exchange Master	Master Exchange Courses
SBE Non Degree Courses	Master Courses