

Course Descriptions NonDegree 2023-2024

Course Title	Life Insurance I																
Course Code	EBC4119																
ECTS Credits	6,5																
Assessment	Whole/Half Grades																
Period	<table border="1"> <thead> <tr> <th>Period</th> <th>Start</th> <th>End</th> <th>Mon</th> <th>Tue</th> <th>Wed</th> <th>Thu</th> <th>Fri</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>5-2-2024</td> <td>28-3-2024</td> <td></td> <td>X</td> <td></td> <td></td> <td>X</td> </tr> </tbody> </table>	Period	Start	End	Mon	Tue	Wed	Thu	Fri	4	5-2-2024	28-3-2024		X			X
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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	<p>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).</p> <p>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.</p>																
Description	<p>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.</p>																
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	<table border="0"> <tr> <td>Master Business Research - Operations Research</td> <td>Elective Course(s)</td> </tr> <tr> <td>Master Econometrics and Operations Research</td> <td>Elective Course(s)</td> </tr> <tr> <td>Master Economic and Financial Research - Econometrics</td> <td>Elective Course(s)</td> </tr> <tr> <td>Master Economic and Financial Research - No specialisation</td> <td>Elective Course(s)</td> </tr> <tr> <td>SBE Exchange Master</td> <td>Master Exchange Courses</td> </tr> <tr> <td>SBE Non Degree Courses</td> <td>Master Courses</td> </tr> </table>	Master Business Research - Operations Research	Elective Course(s)	Master Econometrics and Operations Research	Elective Course(s)	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				
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