Course Descriptions None 2025-2026

Course Title	Life Insurance II
Course Code	EBC4120
ECTS Credits	6,5
Assessment	Whole/Half Grades

Period

Period	Start	End	Mon	Tue	Wed	Thu	Fri
5	13-4-2026	5-6-2026	X			X	

Level	Advanced
Coordinator	Jan Christopher Kops For more information:j.kops@maastrichtuniversity.nl
Language of instruction	English
Goals	To become acquainted with statistical models that can be used in life insurance.
Description	The course provides students with statistical models that are useful in life insurance (many of these models are also used in other fields that are concerned with future lifetimes of individuals or groups such as biostatistics, epidemiology or public health planning). We first discuss methods to model mortality rates for a larger group or an entire population. A particular focus is on the Lee-Carter model and its extensions. We also learn how to estimate these models. Afterwards we turn to models that are appropriate to model the future lifetime of individuals. A focus will be on models that can incorporate covariates such as parametric regression models, the Cox model and the accelerated failure time model. We also address the multiple decrement model. Subsequently, we discuss how these models can be used to set premiums for life insurance products. In the last part of the course we introduce a model that allows to calculate premiums for insurances that may provide benefits depending on the current status of the insured. As part of the course students will also apply the methods introduced to real data.
Literature	Research articles, the slides of the course.
Prerequisites	Probability Theory and Mathematical Statistics.
Transitional Regulations	<div class="trreg"><div class="subtitle">TRANSITIONAL REGULATIONS</div><ul class="trcohorts"> - Master Business Research - Operations Research - In 2024-2025 and 2025-2026 education and exam/resit opportunities are offered. - In 2026-2027 exam/resit opportunities are offered. - From 2027-2028 onwards, the course is cancelled. <table><col style="width: 200px;"><col style="width: 120px;"><col style="width: 120px;"><col><thead><tr><th>Academic Year</th><th>Education</th><th>Exam/Resit</th><th>Replacement(s)</th></tr></thead><tbody><tr><td>2024-2025 - 2025-2026</td><td>X</td><td>X</td><td> </td></tr><tr><td>2026-2027</td><td> </td><td>X</td><td> </td></tr><tr><td>2027-2028 onwards</td><td> </td><td> </td><td> </td></tr></tbody></table></div>
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 Business Research - Operations Research	In transition - Year 1+2 Elective Courses
Master Business Research - Operations Research	Transitional Regulation
Master Econometrics and Operations Research	Elective Courses
Master Economic and Financial Research - Econometrics	Elective Courses
Master Economic and Financial Research - No specialisation	Elective Courses
SBE Exchange Master	Master Exchange Courses
SBE Non Degree Courses	Master Courses