FINANCIAL AND ACTUARIAL MATHEMATICS

Programme type	Master's studies (university)
Field of study	Applied Mathematics
Study area	Mathematical Sciences
Degree	Master in Mathematical Sciences
Duration	1,5 years (3 semesters)
Workload	90
Language of instruction	English
Location	Vilnius, Lithuania
Starting date	1st of September
Tuition fee EU students	2542 EUR/per year
Tuition fee Non-EU students	3250 EUR/ per year

PROGRAMME DESCRIPTION

- *The objective*

High-profile education in financial and actuarial mathematics with an emphasis on theoretical foundation of various methods and techniques of probability theory, stochastic analysis, risk theory, and related fields. Graduates of the programme are qualified to analyze and solve problems in theoretical models of finance and insurance, with implementation of obtained solutions in practice.

- *Career opportunities*

Upon completion of the studies, a student may work in the insurance companies, banks, pension and investment funds, consulting firms, government agencies, etc. (e.g., as actuaries, financial analysts, risk assessors, consultants both for Lithuanian and foreign institutions supervising financial and insurance markets).

- *Access to further studies*

The graduates can also pursue further studies at the Ph.D. level in Mathematics and/or Statistics.

KEY LEARNING OUTCOMES

Students possess logical thinking, creative view toward professional activities, know how to apply theory in practice. Any Master program graduate in actuarial and financial mathematics can also pursue an academic career by enrolling into a Ph.D. program either at Vilnius University or abroad.

COURSE INFORMATION

The programme has the following structure:

Course Type	1st Semester	2nd Semester	3rd Semester
Compulsory Courses	Time Series Analysis (5 ECTS)	Financial Mathematics (5 ECTS)	Final Thesis (30 ECTS)
	Nonlife Insurance (5 ECTS)	Life Insurance. Health Insurance (10 ECTS)	
	Selected Topics in Analysis (5 ECTS)	Risk Theory (5 ECTS)	
	Stochastic Analysis (5 ECTS)		
	Probability Theory and Mathematical Statistics (10 ECTS)		
Elective Courses		Asset Allocation (5 ECTS)	
		Stochastic Models of Financial Mathematics (5 ECTS)	
		Pension Funds (5 ECTS)	
		Risk Management (5 ECTS)	

GRADUATION REQUIREMENTS

The Master of Mathematical Sciences is awarded upon a successful completion of the entire programme and the Master Thesis, which is defended in a viva voce examination before the board of scholars.

ADMISSION REQUIREMENTS AND SELECTION CRITERIA

- Bachelor degree in financial and actuarial mathematics; or
- Bachelor degree in mathematics, statistics, economics, or physics with additional prerequisites: Microeconomics and macroeconomics (minimum 5 credits); Probability theory (including theory of stochastic processes) and mathematical statistics (10 credits); other disciplines of mathematics (20 credits); Basics of financial and actuarial mathematics (10 credits).
- English language proficiency: the level not lower than B2 (following the Common Framework of Reference for Language approved by the Council of Europe).

EXAMINATION AND ASSESSMENT REGULATIONS

The system of assessment is specified in the course unit description. Academic progress may be assessed in different ways; several methods may be combined, such as continuous, mid-term, and final assessment. The final mark for the course unit may be cumulative, calculated on the basis of the proportions specified in the course unit description. The form of the final assessment is a written examination.

Academic contact	Admission contact
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