Univerza v Ljubljani

Financial mathematics – curriculum (academic year 2019/20)

« Academic year 2018/19
Academic year 2020/21 »

Master's study programme

	Autumn Semester	Spring Semester	ECTS
	Year 1		
Probability 2	3/2		6
Financial mathematics 2	3/2		6
Electives from groups M1-M5 and R1	6/4		12
Elective at Faculty of Economics	3/2		7
Electives from groups M1-M5 and R1		12/8	24
General elective		3/1	5
	Year 2		
Elective from groups M1-M5 and R1	9/6		18
Elective at Faculty of Economics	2/1		7
General elective	3/1		5
Workplace experience 1		1*	6
General elective or Workplace experience 2		1*	6
Master's thesis		0*	18

The student must pass at least five electives (30 ECTS) from group M5 and at least four electives (24 ECTS) from groups M1-M5 and R1.

Electives by group

The following are all accredited courses. Not all of them are offered every year.

The list of courses for the academic year 2019/20 is listed below and might change slightly (click on the course name to view the syllabus).

All »

	Lectures/Tutorials	ECTS

	Statistics 2	3/2	6
	Bayesian statistics	3/2	6
	Econometrics	3/2	6
	Stochastic processes 2	3/2	6
	Stochastic processes 3	3/2	6
	Actuarial mathematics	3/2	6
	Modelling with stochastic processes	3/2	6
M5	Topics in game theory	3/2	6
	Topics in financial mathematics 1	3/2	6
	Topics in financial mathematics 2	3/2	6
	Optimization in finance	3/2	6
	Time series	3/2	6
	Riesz spaces in mathematical economics	3/2	6
	Numerical methods for financial mathematics	3/2	6
	Financial mathematics 3	3/2	6

			ECTS
	Measure theory	3/2	6
	Introduction to functional analysis	3/2	6
	Functional analysis	3/2	6
	Introduction to C* algebras	3/2	6
	Operator theory	3/2	6
	Introduction to harmonic analysis	3/2	6
M1	Special functions	3/2	6
	Partial differential equations	3/2	6
	Complex analysis	3/2	6
	Analytical mechanics	3/2	6
	Continuum mechanics	3/2	6
	Fluid mechanics	3/2	6
	Mechanics of deformable bodies	3/2	6
	Dynamical systems	3/2	6
	Commutative algebra	3/2	6
	Noncommutative algebra	3/2	6
	Nonassociative algebra	3/2	6
M2	Ordered algebraic structures	3/2	6
	Theory of semigroups and groups	3/2	6
	Number theory	3/2	6
	Combinatorics	3/2	6

	Graph theory	3/2	6
	Cardinal arithmetic	3/2	6
	Topics in discrete mathematics 1	3/2	6
	Topics in discrete mathematics 2	3/2	6
	Applied discrete mathematics	3/2	6
	Logic	3/2	6
M3	Analysis on manifolds	3/2	6
	Introduction to algebraic geometry	3/2	6
	Convexity	3/2	6
	Algebraic topology 1	3/2	6
	Algebraic topology 2	3/2	6
	Differential geometry	3/2	6
	Lie groups	3/2	6
	Riemann surfaces	3/2	6
M4	Numerical integration and ordinary differential equations	3/2	6
	Numerical solving of partial differential equations	3/2	6
	Iterative numerical methods in linear algebra	3/2	6
	Computer aided (geometric) design	3/2	6
	Numerical approximation and interpolation	3/2	6
	Numerical methods for linear control systems	3/2	6
R1	Mathematics with computer	3/2	6
	Computability theory	3/2	6
	Computational complexity	3/2	6
	Topics in computational mathematics	3/2	6
	Topics in optimization	3/2	6
	Optimization 2	3/2	6
	Data structures and algorithms 3	3/2	6
O	Workplace experience 2	1*	6
	Mathematics in industry	2*	6

	Electives at Faculty of Economics	**ECTS**
EF	Taxes and tax harmonisation in the EU	7
	Econometrics 2	7
	Econometrics of time series and panel data	8
	Economics of the labour market	7
	Economic integrations and the EU	7
	Economic policies of the EU	7
	Financial analysis 2	8

Financial economics	7
Public finance 2	7
Quantitative behavioural finance	7
Macroeconomics 3	7
Management of financial institutions 2	8
International finance 2	7
Microeconomics 3	7
Asset pricing models	10
Monetary economy 2	8
Risk management	8
Business finance 2	7
Theory of financial agencies	7
Theory of information and contracts in finance and insurance	7
Insurance finance	7
Mergers and acquisitions	7
Life and retirement insurance	7