Statistics for financial mathematics and economy

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Location in Europe

Location in Slovakia

Structure of studies

Bachelor studies (3 years):

- Mathematics
- Teaching of Mathematics (and another subject)

Master studies (2 years):

- Mathematical Statistics and Financial Mathematics
- Mathematics in Computer Science
- Teaching of Mathematics (and another subject)

PhD Studies (3 years internal, 5 years external):

- Probability and Mathematical Statistics
- Mathematical Analysis
- Theory of Mathematical Education)

Structure of studies

Bachelor studies (3 years):

- **Mathematics**
- Teaching of Mathematics (and another subject)

Master studies (2 years):

- **Mathematical Statistics and Financial Mathematics**
- Mathematics in Computer Science
- Teaching of Mathematics (and another subject)

PhD Studies (3 years internal, 5 years external):

- **Probability and Mathematical Statistics**
- Mathematical Analysis
- Theory of Mathematical Education)

Mathematics - Bachelor studies, semester 1-3

Subject	Semester	Lect-sem	Credits
Introductory course	1	22 h	4
Calculus 1	1	4-3	8
Introduction to algebra	1	3-2	6
Discrete mathematics 1	1	3-4	7
Calculus 2	2	3-2	7
Linear algebra 1	2	3-2	6
Discrete mathematics 2	2	2-3	5
Algorithms and programming 1	2	2-4	8
Mathematical analysis 1	3	2-2	5
Algebra 1	3	2-2	5
Geometry 1	3	2-2	4
Probability	3	2-2	4

Mathematics - Bachelor studies, semester 4-6

Subject	Semester	Lect-sem	Credits
Algorithms and programming 2	4	1-2	4
Mathematical analysis 2	4	2-2	5
Optimisation 1	4	2-2	5
Numerical mathematics 1	4	2-2	6
Financial mathematics 1	4	2-2	4
Statistics 1	4	2-2	5
Insurance mathematics 1	4	0-2	3
Mathematical analysis 3	5	3-2	4
Discrete dynamical modelling 1	5	2-1	3
Statistics 2	5	2-3	4
Algorithms and programming 2	5	0-2	3
TeX	5	12 h	2
Differential equations 1	6	4-4	5
Discrete dynamical modelling 2	6	2-2	3

Mathematical Statistics and Financial Mathematics

Subject	**Semester**	**Lect-sem**	**Credits**
Probability theory 2	1	2-1	4
Mathematical statistics 1	1	3-2	4
Financial mathematics 3	1	3-1	4
Insurance mathematics 2	1	0-2	4
Mathematical statistics 2	2	3-2	4
Econometry 1	2	2-2	4
Financial mathematics 4	2	2-1	4
Insurance mathematics 3	2	2-1	4
Mathematical statistics 3	3	3-2	4
Econometry 2	3	2-2	4
Financial mathematics 5	3	2-1	4
Insurance mathematics 4	3	2-1	4
Mathematical statistics 4	4	3-2	4
Practical work	4	3 weeks	3

Optional - at least 36 credits

Subject	Semester	Lect-sem	Credits
Metric spaces and topology	1	2-1	6
Applied algebra	1	2-1	4
Differential equations 2	1	2-1	4
Dynamical systems 1	2	2-1	6
Fuzzy sets	2	2-1	5
Numerical mathematics	2	2-2	3
Differential equations 3	2	0-2	4
Dynamical systems 2	3	2-1	6
Functional analysis	3	2-1	6
Optimisation 2	3	2-2	4

PhD in Probability and Mathematical Statistics

Topics of the thesis (2010/11):

- Probability on algebraic structures
- Probability on the system of intuitionistic fuzzy events
- Calibration problem
- Fourier transform of measures
- Similarity measures
- Large deviations
- Random variables with values in ordered spaces
- Probability on MV-algebras

Students and their perspectives