Master's Programme in Mathematical Sciences, University of Gothenburg

Overview of the programme

	Mathematics	Applied Mathematics	Financial Mathematics	Mathematical Statistics	Statistical Learning and AI
Fall	MVA200 Perspectives in Mathematics (0)	MVA200 Perspectives in Mathematics (0)	MVA200 Perspectives in Mathematics (0)	MVA200 Perspectives in Mathematics (0)	MVA200 Perspectives in Mathematics (0)
Fall 1	MMA201 Representation Theory (1) MMA330 Commutative algebra (2) MMA110 Integration Theory	MMA400 Applied Functional Analysis MMA600 Numerical Linear Algebra MMA620 High Performance Computing	MMA110 Integration Theory MSA350 Stochastic Calculus MSA101 Computational Methods for Bayesian Stat. GM0701 Advanced Microeconomic Theory (7) HNF635 Portfolio Investment (4,5,7) GM1015 Advanced Corporate Finance (3,7)	MSA350 Stochastic Calculus MSA101 Computational Methods for Bayesian Stat. MMA110 Integration Theory	MSA101 Computational Methods for Bayesian Stat. MMG621 Nonlinear Optimization (5) FIM720 Neural Networks DIT602 Algorithms (8)
Fall 2	MMA310 Galois Theory (1) MMA320 Introduction to Algebraic Geometry (2) MMA120 Functional Analysis	MMA520 Project Course in Mathematical Modelling MMA410 Fourier and Wavelet Analysis (1) MMA511 Large-Scale Optimization	MMG810 Options and Mathematics GM1002 Financial Institutions and Markets (4,7)	MSA150 Foundations of Probability Theory MSA520 Project Course in Statistical Modelling	MSA520 Project Course in Statistical Modelling MSA150 Foundations of Probability Theory FIM750 Simulation of Complex Systems DIT405 Introduction to Data Science and AI (5,8) DIT742 Computational Methods in Bioinformatics (8) DIT621 Databases (5,8) DIT245 Machine Learning for Natural Language Processing (8)
Spring 1	MMA211 Advanced Differential Calculus MMA130 Theory of Distributions (2) MMA350 Algebraic Number Theory (1) MMA100 Topology MMA340 Analytic Number Theory (2)	MMA630 Computational methods for SDE (1)	MMA711 Financial Derivatives and PDE MMA630 Computational Methods for SDE (1)	MSA251 Experimental Design and Sampling (2) MSF100 Statistical Inference Principles (1) MSA620 Design and Analysis of Clinical Trials (1) MSA650 Linear Mixed Models for Longitudinal Data (2)	MSF100 Statistical Inference Principles (1) MSA251 Experimental Design and Sampling (2) DIT405 Introduction to Data Science and AI (5,8) DIT621 Databases (5,8) DIT381 Algorithms for Machine Learning & Inference (6,8) DIT602 Algorithms (8) DIT728 Design of AI Systems (8) DIT866 Applied Machine Learning (6,8)
Spring 2	MMA430 Partial Differential Equations II MMAxxx Multivariable Complex Analysis (1) MMA140 Spectral Theory & Operator Algebras (2)	MMA430 Partial Differential Equations II	MSA400 Financial Risk MSA410 Financial Time Series MSA220 Statistical Learning for Big Data GM1014 Applied Portfolio Management (4,7)	MSA400 Financial Risk MSA301 Spatial Statistics and Image Analysis MSA410 Financial Time Series MSF200 Stochastic Processes (1) MSF500 Weak Convergence (2) MSA220 Statistical Learning for Big Data	MSA220 Statistical Learning for Big Data MSA410 Financial Time Series MSA301 Spatial Statistics and Image Analysis MSF200 Stochastic Processes (1)
Require-ments	The red course, two blue and two green courses 52.5p elective courses (seven standard courses) Thesis MMA910, 30p	The red course and four blue courses 52.5p elective courses (seven standard courses) Thesis MMA920, 30p	All four red courses, three blue and two green courses 22.5p elective courses (three standard courses) Thesis MMA930 or MSA930, 30p	Both red courses, one blue course and two additional blue or black courses 52.5p elective courses (seven standard courses) Thesis MSA910, 30p	All four red courses, two blue and three green courses 22.5p elective courses (three standard courses) Thesis MSA940, 30p

(0) This course runs quarter-time during the whole fall semester
(1) This course is only given academic years starting with an odd number, e.g. fall 2019 - spring 2020
(2) This course is only given academic years starting with an even number, e.g. fall 2020 - spring 2021
(3) This course runs full-time during the first half of the quarter
(4) This course runs full-time during the second half of the quarter
(5) This is a first cycle (bachelor level) course. At most 30p in your master's degree can come from first cycle courses.
(6) These two courses overlap and it is not recommended to take both
(7) To register for this course contact the program coordinator (Hjalmar Rosengren)
(8) For courses at the computer science department, it is important that you are logged in as a programme student when you apply