### Master's Programme in Mathematical Sciences, University of Gothenburg

**Overview of the programme**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Mathematics</th>
<th>Applied Mathematics</th>
<th>Financial Mathematics</th>
<th>Mathematical Statistics</th>
<th>Statistical Learning and AI</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMA201</td>
<td>Representation Theory (1)</td>
<td>MMA400</td>
<td>Applied Functional Analysis</td>
<td>MMA110</td>
<td>Integration Theory</td>
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<tr>
<td>MMA900</td>
<td>Commutative Algebra (2)</td>
<td>MMA500</td>
<td>Stochastic Calculus</td>
<td>MSA100</td>
<td>Computational Methods for Bayesian Stat.</td>
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<tr>
<td>MMA110</td>
<td>Integration Theory</td>
<td>MSA111</td>
<td>Computation Methods for Bayesian Stat.</td>
<td>MMA110</td>
<td>Integration Theory</td>
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<tr>
<td>MMA900</td>
<td>Numerical Linear Algebra</td>
<td>MSA900</td>
<td>Stochastic Calculus</td>
<td>MMA110</td>
<td>Integration Theory</td>
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<tr>
<td>MMA610</td>
<td>High Performance Computing</td>
<td>MSA910</td>
<td>Stochastic Calculus</td>
<td>MMA110</td>
<td>Integration Theory</td>
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<tr>
<td>MMA900</td>
<td>Perspectives in Mathematics (0)</td>
<td>MSA920</td>
<td>Stochastic Calculus</td>
<td>MMA110</td>
<td>Integration Theory</td>
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<tr>
<td>MMA930</td>
<td>Project Course in Mathematical Modelling</td>
<td>MSA930</td>
<td>Stochastic Calculus</td>
<td>MMA110</td>
<td>Integration Theory</td>
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<tr>
<td>MMA910</td>
<td>Project Course in Statistical Modelling</td>
<td>MSA940</td>
<td>Stochastic Calculus</td>
<td>MMA110</td>
<td>Integration Theory</td>
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<td>MMA920</td>
<td>Project Course in Statistical Modelling</td>
<td>MSA950</td>
<td>Stochastic Calculus</td>
<td>MMA110</td>
<td>Integration Theory</td>
</tr>
</tbody>
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**Fall 1**

- MMA310 Galois Theory (1)
- MMA300 Introduction to Algebraic Geometry (2)
- MMA700 Functional Analysis
- MMA110 Integration Theory
- MMA901 Advanced Microeconomic Theory (7)
- MMA610 Advanced Corporate Finance (3.7)

**Fall 2**

- MMA310 Galois Theory (1)
- MMA320 Project Course in Mathematical Modelling
- MMA310 Fourier and Wavelet Analysis (1)
- MMA501 Large Scale Optimization
- MMA901 Options and Mathematics
- MMA100 Financial Institutions and Markets (4.7)

**Spring 1**

- MMA211 Advanced Differential Calculus
- MMA300 Theory of Distributions (2)
- MMA350 Algebraic Number Theory (1)
- MMA400 Topology
- MMA400 Analytic Number Theory (2)

**Spring 2**

- MMA400 Partial Differential Equations II
- MMA400 Multivariable Complex Analysis (1)
- MMA400 Topology
- MMA400 Spectral Theory & Operator Algebra (2)

**Requirements**

- The red course, two blue and two green courses (seven standard courses) Thesis MMA910, 30p
- The red course and four blue courses (seven standard courses) Thesis MMA920, 30p
- All four red courses, three blue and two green courses (seven standard courses) Thesis MMA930 or MSA930, 30p
- Both red courses, one blue course and two additional blue or black courses (seven standard courses) Thesis MMA940, 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