Opportunities in Mathematical Statistics

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### Basic and intermediate courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Cred</th>
<th>Start</th>
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<tbody>
<tr>
<td><strong>Math Stat: Basic Course MASA01</strong></td>
<td>15</td>
<td>Sep 4 10.15 MH:309A</td>
</tr>
<tr>
<td>Markov processes MASC03</td>
<td>7.5</td>
<td>Sep 3 15.15 in MA03</td>
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<tr>
<td>Stationary Stochastic Proc. MASC04</td>
<td>7.5</td>
<td>Sep 3 13.15 in MH:Riesz</td>
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### Advanced courses

<table>
<thead>
<tr>
<th>Course</th>
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<th>Start</th>
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<tbody>
<tr>
<td>Time series analysis MASM17</td>
<td>7.5</td>
<td>Nov 5 13.15 in MA04</td>
</tr>
<tr>
<td>Financial statistics MASM18</td>
<td>7.5</td>
<td>Nov 5 10.15 in MH:Riesz</td>
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<tr>
<td>Valuation of Derivative Assets MASM24</td>
<td>7.5</td>
<td>Sep 3 8.15 in E:C</td>
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<td>Spatial Statistics MASM25</td>
<td>7.5</td>
<td>Nov 5 15.15 in MH:309A</td>
</tr>
<tr>
<td>Math. Found. Prob. Theo MATM30</td>
<td>7.5</td>
<td>Nov 5 TBA</td>
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Course chains in Mathematical statistics

- Image analysis
- Monte Carlo\-meth. stat.inf.
- Financial Statistics
- Financial Economy
- Time Series Analysis
- Stat and Non-Stat Spectral Analysis
- Non-linear Time Series Analysis
- Valuation of Derivative Assets
- Spatial Statistics w Image Analysis
- Markov processes
- Stationary Stoc. Processes
- Math found Prob
- Probability Theory
- Inference theory
- Survival Analysis
- Nonparametric Inference
- Stat. Mod. of Extreme Values
- Stat Mod of Multi-Var Extreme Values
- Math Analysis, Linear algebra, Analysis in several variables, Numerical analysis 60 Cred
- 60 Cred Mathematics
- 60 Cred Mathematics
- Design of Experiments
- Logistic Regression
- Mat Stat Basic Course 15 Cred
Entry requirements
MATA21 Analysis in One Variable 15, MATA22 Linear Algebra 1 7.5, MATA23 Foundations of Algebra 7.5, NUMA01 Computational Programming with Python 7.5, MATB21 Analysis in Several Variables 1 7.5, MATB22 Linear algebra 2 7.5, MATB23 Analysis in Several Variables 2 7.5,
At least one of the courses:
MATB13 Discrete mathematics 7.5, MATB16 Linear analysis 7.5 hp.
Additionally the courses MASA01 Mathematical statistics, basic course, 15; MASC01 Probability theory, 7.5 ; as well as 15 additional credits in Mathematical statistics are required.
Entry requirements
A degree at the basic (Bachelor) level of at least 180 ECTS credits, or that the requirements for such a degree are fulfilled. It is also required that this degree contains courses of in total at least 90 ECTS credits in mathematics, mathematical statistics, numerical analysis, scientific computing and computer science, of which at least 45 ECTS credits in mathematics including courses in multivariable calculus and linear algebra, at least 30 ECTS credits in mathematical statistics, and at least 15 ECTS credits in numerical analysis, scientific computing and/or computer science. English 6/English Course B.
Requirements for a Master’s degree
Courses of 90 ECTS credits, and a Master’s thesis in Mathematical Statistics of 30 ECTS credits. Of the 90 course credits, at least 45 credits must be courses in Mathematical Statistics on the advanced level; among these 45 credits at least three out of the four courses:

- MASM11 Monte Carlo methods for statistical inference,
- MASM14/MATM30 The Mathematical Foundations of Probability Theory,
- MASM15 Statistical Modelling of Extreme Values,
- MASM17 Time-series-analysis,

should be included. Of the 90 ECTS course credits not more than 30 credits are allowed to be on the basic level.