mat810 - Quantitative Risk Management

Module label: Quantitative Risk Management
Module code: mat810
Credit points: 9.0 KP
Workload: 270 h

Used in course of study:
- Master's Programme Mathematics > Mastermodule

Contact person:
- Marcus Christiansen
- Angelika May
- Peter Ruckdeschel

Entry requirements:
Students shall learn about fundamental mathematical concepts of modern risk management in the insurance industry.

Module contents:
Fundamentals of ruin theory, risk measures, modelling of dependent risks, fundamentals of Asset-Liability-Management, performance measures, mathematical and legislative foundations of the Solvency II process, statistical Monte Carlo methods, stochastic internal business models, allocation principles of risk capital.

Reader's advisory:

Links:
- Languages of instruction: English, German
- Duration (semesters): 1 Semester
- Module frequency: im 2-Jahres-Zyklus
- Module capacity: unlimited
- Moduleart: Wahlpflicht
- Lern-/Lehrform / Type of program: lecture + tutorial

Examination

<table>
<thead>
<tr>
<th>Type of examination</th>
<th>Time of examination</th>
<th>Frequency</th>
<th>Workload attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final exam of module</td>
<td>in the first two weeks of the semester vacation</td>
<td>written or oral exam or solving of exercises</td>
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</tbody>
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Course type

<table>
<thead>
<tr>
<th>Comment</th>
<th>SWS</th>
<th>Frequency</th>
<th>Workload attendance</th>
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<tbody>
<tr>
<td>Lecture</td>
<td>4.00</td>
<td>--</td>
<td>56 h</td>
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<tr>
<td>Exercises</td>
<td>2.00</td>
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<td>28 h</td>
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Total time of attendance for the module: 84 h