# Module description

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
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<tbody>
<tr>
<td>Overview Stochastics 1 and Stochastics 2</td>
<td>10-M-STO-Ü-152-m01</td>
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### Module coordinator
- Dean of Studies Mathematik (Mathematics)

### Module offered by
- Institute of Mathematics

<table>
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<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
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<tbody>
<tr>
<td>12</td>
<td>numerical grade</td>
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### Duration
- 1 semester

### Module level
- undergraduate

### Other prerequisites
- --

## Contents

Combinatorics, Laplace models, selected discrete distributions, elementary measure and integration theory, continuous distributions: normal distribution, random variable, distribution function, product measures and stochastic independence, elementary conditional probability, characteristics of distributions: expected value and variance, limit theorems: law of large numbers, central limit theorem; elements of data analysis, statistics of data in normal and other distributions, elements of multivariate statistics.

### Intended learning outcomes

The student is acquainted with fundamental and advanced concepts and methods in stochastics. He/She is able to relate these concepts with one another, and realises the advantages of thinking across the borders of different branches in mathematics.

### Courses

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of weekly contact hours, language — if other than German</th>
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<td>(4) + Ü (2)</td>
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### Method of assessment

- Oral examination of one candidate each (20 to 40 minutes)
- Assessment will have reference to two topics in applied mathematics as agreed upon with the examiner. Each topic may only be selected as the subject of one examination in the sub-fields Gesamtüberblick (Overview).
- Language of assessment: German and/or English

### Allocation of places
- --

### Additional information
- --

### Referred to in LPO I

(Examination regulations for teaching-degree programmes)
- --

### Module appears in

- Bachelor' degree (1 major) Mathematics (2015)
- Bachelor' degree (1 major) Computational Mathematics (2015)