# Mathematics M3e

**Winter**

(engl. Mathematics M3e )

## Module-ID: FMA-INF-5013272

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| **Link:** | **(Angeboten wenn im LSF)** |
| **Responsibility:** | Prof. Dr. Robert Altmann |
| **Lecturer:** | , Prof. Dr. Robert Altmann |
| **Classes:** | • Lecture *Mathematics M3e*<br>• Global tutorial *Mathematics M3e*<br>• Group tutorial *Mathematics M3e* |

| Credit Points | Semester | Term | Duration | Language | Level |
|---|---|---|---|---|---|
| 5 | Winter | 4. | 1 Semester | english | Bachelor |

**Goals and qualifications:**
The students acquire comprehension of and familiarity with concepts and methods that are relevant for subject-specific classes in the areas of engineering and computer science. They develop technical skills by applying those methods, in particular to subject-specific examples. The topical focus of the module is on stochastics as well as on advanced topics in Linear Algebra and Calculus.

**Content:**

- Probability and statistics
- Eigenvalues (deeper treatment, in particular diagonalization)
- Power series
- Fourier series
- Ordinary differential equations (e.g., Picard-Lindelöf, scalar ODE’s with separated variables, linear systems of ODE’s with constant coefficients, variation of the constant)

**Workload:**

| | in class | self-study |
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| Lecture | 3 SWS / 42 h | 66 h |
| Global tutorial | 2 SWS / 28 h | |
| Group tutorial | 1 SWS / 14 h | |

| Prerequisites for participation: | Pre-examination requirements: | Type of examination: |
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| **Applicability in curriculum:** | - B.Sc. INF: Mathematik / Logik<br>- B.Sc. INF: Mathematik (SPO 2027)<br>- B.Sc. CV: Mathematik / Logik<br>- B.Sc. CV: Mathematik (SPO 2027)<br>- B.Sc. INGINF: Mathematik / Logik<br>- B.Sc. INGINF: Mathematik (SPO 2027)<br>- B.Sc. WIF: Verstehen - Pflicht<br>- B.Sc. WIF: Mathematik (SPO 2027)<br>- B.Sc. INF (bilingual): Mathematik / Logik<br>- B.Sc. INF (bilingual): Mathematik (SPO 2027) |

## Comments:

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