# Course Description – Winter Semester 2025/2026

| | |
|---|---|
| **Title** | Signals and Systems (Code: SigSys) |
| **Faculty** | Computer Science |
| **Professor** | Prof. Dr. Martin Golz |
| **ECTS** | 5 |
| **Level** | Bachelor, Master |
| **Requirements** | Basic knowledge in linear algebra and analysis as well as solid programming skills. |
| **Add. Information** | - |
| **Content** | The students will be introduced to typical problems of signal processing. Basic knowledge of the Fourier integral and convolution integral of continuous functions, the Fourier series of periodic functions, and the discrete Fourier transform of sequences (digital signals) are presented. Students become familiar with system theory. Both, in theory and in practice, students learn how to solve digital filtering tasks. Application will be performed also by spectral estimation of stochastic signals, and by analysing signals in the time-frequency domain. For the latter the theory of continuous and digital wavelet transform will be presented. |