

Course Description – Winter 2022/23

Title	Signals and Systems (SigSys)
Faculty	Computer Science
Professor	Prof. Dr. Martin Golz
ECTS	5
Level	Master, Bachelor (with prerequisites)
Requirements	Solid knowledge in Linear Algebra and Calculus (Analysis) as well as solid programming skills.
Add. Information	Please join the course no later than four weeks after the start.
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 practise, 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.