Digital Signal Processing (5 ECTS)

Lecturer

Prof. Dr. Manfred Jungke, Frankfurt University of Applied Sciences

Prerequisites

Basic mathematics and complex numbers, C programming language

Course content

Core content level:

Basics of Digital Signal Processing: discrete signals and their properties, properties of sampled linear systems, difference equation, convolution, correlation, analysis of linear discrete-time systems: impulse and step responses, transfer function, frequency response, Discrete Fourier Transform (DFT), z-Transform, pole-zero- diagram. basic audio signal processing

Additional content:

Training material including solved problems are provided.

Core content level learning outcomes

Knowledge and understanding:

The students will know the basic properties of digital signal processing systems. They are able to analyze signal processing systems and to understand the background of filter design software.

Skills:

The student is able to use basic signal processing tools for analyzing and modifying existing digital signal processing systems.

Evaluation

Written exam of 90 minutes duration about two weeks after the end of the course.

Assesment scale:

Numeric 0-5