Name of the subject: **Signal processing I**	NEPTUN code: KMXJK1ABNE	Weekly hours: 5 2 lec+0 gs+ 2 lab	Credit: 5 Req: Examination
Subject leader: **Dr. Kohut József**	**docent**	Prerequsites: .	

Description of the subject:

Features of deterministic signals under time, and amplitude domain. Average-like features of signals. Periodic signals and their Fourier sequence. Aperiodic signals and their Fourier transformation. Basics of sampling, such as mathematical and physical sampling. Fourier spectrum in case of sampling. Reconstruction of the original signal from regularly sampled one. Irregular sampling. Un-overlapping filter. Theories of physical sampling, reconstruction of sampled signals with filters and sampling and hold circuit. Discrete Fourier transformation basics. Effects of windowing.

Elements of digital filters, FIR and IIR filter structures. Determination of frequency response.

Literature:

S. V. Narasimham, S. Veena> Signal processing> principles and implementation, Google books
Rafael C. Gonzales, Richard E. Woods. Digital Image Processing, Google books ISBN 0-13-168728-x
Desmond J. Higham, Nicholas J. Higham: Matlab Guide, ISBN-10: 0-89871-578-4, Google books