DSP programming 300 (ESP 300)

Qualification	Undergraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	4.00
Programmes	BEng Electrical Engineering
	BEng Electrical Engineering ENGAGE
Prerequisites	EPW 200
Contact time	36 other contact sessions per week
Language of tuition	Module is presented in English
Department	Electrical, Electronic and Computer Engineering
Period of presentation	Year

Module content

This module will deal only with the practical aspects of DSP applications: Universal applications of DSP (Space, medical, commercial, telecommunications, military, industrial and scientific); ADC and DAC; Discrete Fourier-Transform (DFT); Fast Fourier-Transform (FFT); z-Transform; Correlation and Convolution; Digital filter design; FIR and IIR filters; Adaptive digital filters; Computer architecture for DSP; Analysis of finite wordlength effects; Data, audio and video processing and compression. Simulation (MATLAB) and real-time implementation of selected signal processing algorithms on DSP hardware. Programming and mapping of DSP algorithms onto DSP hardware.

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