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# University of Pretoria Yearbook 2016

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## DSP programming 300 (ESP 300)

**Qualification** Undergraduate

**Faculty** [Faculty of Engineering, Built Environment and Information Technology](#)

**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.

**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** Both Afr and Eng

**Academic organisation** Electrical, Electronic and Com

**Period of presentation** Year

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